NUMBERS & ODDITIES

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- Download the complete N&O newsletter from the N&O web site -
- http://home.luna.nl/~ary/ -

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- http://www.spynumbers.com/numbersDB/ -

-::: N&O #72, April 2004 :::-

Hi, good news for those of you who were not able to buy the Irdial 4-cd set in the past. Irdial released the numbers stations cd's a couple of years ago and has now re-released the set. You can order the cd's from Amazon or via http://irdial.com/conet_page2.htm. The price is GBP 39.99. You can also download the recordings in mp3 format.

I'm sure that many of you know "Eye Spy", one of the few intelligence magazines in the world. It is nice to know that Eye Spy has put a link to Numbers & Oddities on their website. You may want to check it out: http://www.eyespymag.com. Click on "Intelligence Resource Center", then click on "Intelligence Resources and Aids".

An unid new numbers station surfaced in early April. It now has an ENIGMA designator, M93, but we are still looking for more info about the station. See the morse stations section for M93's profile.

Fritz has been glued to his radio set. The E10 frequency list comes from him.

-0-0-0-0-0-0-0-0-0-0-

::: E03

Thomas was so kind to jot down a message from the Lincolnshire Poacher. The id was 07058.

57907 98525 45434 50598 59500 67560 04134 02430 48892 58586
45769 23054 91760 66522 89282 25431 96140 80670 90148 74234
62196 34277 00394 20257 18983 95111 55091 35381 02998 25717
38258 66001 07896 34443 13318 76343 65630 62079 28566 10316
39685 94587 76343 79965 17193 61651 15941 65382 46955 22713
18670 56085 40923 75167 64026 57523 97019 36229 65214 99360
15422 97110 15666 02648 38702 54245 19627 06249 44126 42332
78034 86427 34619 59280 60303 60620 05789 62791 56924 00440

27095 45622 63795 14587 97642 28667 67630 67037 58834 75230
93813 25515 38351 04312 46966 53856 62212 85427 36549 71032
40912 12170 62227 95749 39359 03133 11071 20879 35973 77278
50693 71073 64302 98328 82557 62961 04723 11477 08713 00455
39945 54971 37107 70863 43568 59453 49605 30752 61404 37573
31488 43730 49046 33334 04039 83697 60650 63530 59454 11809
36275 40768 38863 12778 31177 62419 61253 12075 67071 68740
45597 57017 54816 74513 98235 68529 07625 31992 65558 53813
39411 76614 56238 26053 73537 09203 53498 26978 27683 07546
45306 52784 00801 90561 05820 56308 12381 64167 38393 75469
49941 52353 12438 74383 11166 99659 58417 37266 72957 79539
60957 84347 39880 30209 06895 90662 01549 55289 44963 15978

- LP's April idents compiled by Al.

Lincolnshire Poacher E03
IDs as of April 1st, 2004

UTC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC
1200	81713	81713	81713	81713	81713	81713	81713	1200
1300	50452	50452	50452	50452	50452	50452	50452	1300
1400	48763	36330	49404	85505	81713	14921	10855	1400
1500	10855	48763	36330	49404	85505	81713	86336	1500
1600	86336	10855	48763	36330	49404	85505	14921	1600
1700	14921	86336	10855	48763	36330	49404	81713	1700
1800	81713	14921	86336	10855	48763	36330	85505	1800
1900	85505	50452	14921	50452	10855	48763	50452	1900
2000	50452	81713	50452	86336	50452	10855	49404	2000
2100	49404	85505	81713	14921	86336	50452	36330	2100
2200	36330	49404	85505	81713	14921	86336	48763	2200

IDs as of April 15th, 2004

UTC	Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC
1200	98122	98122	98122	98122	98122	98122	98122	1200
1300	45893	45893	45893	45893	45893	45893	45893	1300
1400	30507	07058	22950	58656	98122	20951	36661	1400
1500	36661	30507	07058	22950	58656	98122	82934	1500
1600	82934	36661	30507	07058	22950	58656	20951	1600
1700	20951	82934	36661	30507	07058	22950	98122	1700
1800	98122	20951	82934	36661	30507	07058	58656	1800
1900	58656	45893	20951	45893	36661	30507	45893	1900
2000	45893	98122	45893	82934	45893	36661	22950	2000
2100	22950	58656	98122	20951	82934	45893	07058	2100
2200	07058	22950	58656	98122	20951	82934	30507	2200

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::: E04

Cherry Ripe's idents compiled by Tomonori.

IDs as of 1st half of April, 2004

UTC	Sun	Mon	Tue	Wed	Thu	Fri	UTC
0000		07820	39722	61924	85318	45489	0000
0100		39722	61924	85318	45489	83835	0100
1000		61924	85318	45489	83835	61640	1000
1100		85318	45489	83835	61640	61924	1100
1200		45489	83835	61640	61924	07820	1200
1300		83835	61640	61924	07820	39722	1300
1400							1400
2200	61640		61924	07820	39722	61924	2200
2300	61924		07820	39722	61924	85318	2300

IDs as of 2nd half of April, 2004

UTC	Sun	Mon	Tue	Wed	Thu	Fri	UTC
0000		98906	91131	07721	36447	62155	0000
0100		91131	07721	36447	62155	61866	0100
1000		07721	36447	62155	61866	09582	1000
1100		36447	62155	61866	09582	07721	1100
1200		62155	61866	09582	07721	98906	1200
1300		61866	09582	07721	98906	91131	1300
1400							1400
2200	09582	07721	98906	91131	07721		2200
2300	07721	98906	91131	07721	36447		2300

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::: E10

Finally..... STRING MESSAGES! After quite a while E10 transmitted
a number of them this month.

Date / UTC	frequency	message
17-4 2020	6370	KPA 24
18-4 1920	6370//6912	KPA 4Z5
21-4 1933	6370//6912	KPA 34Z31Z8Z1400
25-4 1950	6370	KPA Z9Z7
2112	6930	SYN 10Z99
2115	6912	CIO 11Z19Z64
2117	5230	VLB 7Z28Z82
29-4 1845	5170//6912	SYN A50B2
29-4 1945	6930//5170	SYN A50B2 (moved from 6912 to 6930

when CIO came on the air at 1945 UTC

- E10 schedules, compiled by Fritz.

UTC Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
0600						
17410/EZI		17410/EZI			17410/EZI	
		19715/EZI			19715/EZI	
					6270/ULX	
0630						
		9130/EZI	9130/EZI		9130/EZI	
		7918/YHF	7918/YHF		7918/YHF	
		7760/ULX	7760/ULX		7760/ULX	
			11565/EZI		11565/EZI	
			6986/ART		6270/ULX	
0645						
			6912/CIO			
			6930/SYN			
			7605/VLB			
			7811/SYN			
			8641/VLB			
0700						
	6986/ART	7760/ART	11565/EZI		11565/EZI	
	9130/EZI	9130/EZI	9130/EZI		9130/EZI	
	8805/PCD	8805/PCD	8805/PCD		8805/PCD	
	10648/YHF	10648/YHF	6986/ART		10648/YHF	
	11565/EZI	11565/EZI	10648/YHF			
0730						
	11565/EZI		11565/EZI		11565/EZI	
	9130/EZI		7918/YHF		7918/YHF	
	8805/PCD		9130/EZI		9130/EZI	
	7918/YHF		8805/PCD		8805/PCD	
	7760/ULX		6986/ART		6986/ART	
					7760/ULX	
0745						
			7690/KPA			
0800						
8805/PCD	8805/PCD		8805/PCD		8805/PCD	
					7760/ULX	

0830						
17410/EZI 8805/PCD 7918/YHF	17410/EZI 19715/EZI 8805/PCD	19715/EZI 7690/KPA		19715/EZI 8805/PCD 7760/ULX	19715/EZI 8805/PCD 7760/ULX 7918/YHF 17410/EZI	
0845		7811/SYN 7690/KPA 7605/VLB				
0900						
17410/EZI 8805/PCD 13533/EZI	17410/EZI 8805/PCD 13533/EZI	17410/EZI 8805/PCD 13533/EZI 7918/YHF	13533/EZI 7918/YHF 17410/EZI 8805/PCD	13533/EZI 7918/YHF 17410/EZI 8805/PCD	13533/EZI 17410/EZI 8805/PCD	
0915			7690/KPA			
0930						
	17410/EZI 8805/PCD 7918/YHF 7760/ULX	17410/EZI 8805/PCD 7918/YHF 19715/EZI	8805/PCD 7918/YHF 17410/EZI 19715/EZI	7918/YHF 7760/ULX 19715/EZI 17410/EZI	8805/PCD 7760/ULX 19715/EZI	8805/PCD 7760/ULX 19715/EZI
1000						
11565/EZI 8805/PCD	9202/YHF 11565/EZI 9130/EZI 8805/PCD	11565/EZI 8805/PCD	11565/EZI 9202/YHF	8805/PCD 9202/YHF	8805/PCD 9202/YHF 11565/EZI	8805/PCD 9202/YHF 11565/EZI
1130				11565/EZI 8805/PCD 9130/EZI 7918/YHF		
1145						8641/VLB
1200			13533/EZI 11565/EZI 9202/YHF	13533/EZI 11565/EZI 9202/YHF		13533/EZI 11565/EZI 10648/YHF

1230						
13533/EZI	13533/EZI	17410/EZI	17410/EZI		17410/EZI	
15980/EZI	15980/EZI	8805/PCD	8805/PCD		8805/PCD	
17410/EZI	17410/EZI	13533/EZI	13533/EZI		13533/EZI	
8805/PCD	8805/PCD	7540/JSR	15980/EZI		15980/EZI	
1300						
13533/EZI	13533/EZI	8805/PCD	8805/PCD		8805/PCD	
15980/EZI	15980/EZI	15980/EZI	7760/ULX		7918/YHF	
8805/PCD	8805/PCD	13533/EZI	13533/EZI		13533/EZI	
7760/ULX	7760/ULX		15980/EZI		15980/EZI	
	7918/YHF				7540/JSR	
1330						
7540/JSR	7918/YHF		17410/EZI		17410/EZI	
7918/YHF	8805/PCD		15980/EZI		15980/EZI	
8805/PCD	15980/EZI		7918/YHF		7918/YHF	
15980/EZI	17410/EZI		7540/JSR		7540/JSR	
17410/EZI					8805/PCD	
1345						
7605/VLB	7605/VLB				7811/SYN	
7811/SYN	7811/SYN				7605/VLB	
					8641/VLB	
1400						
23740/EZI	19715/EZI	19715/EZI	19715/EZI	19715/EZI	19715/EZI	
19715/EZI	7918/YHF	6986/ART	6986/ART	23740/EZI	23740/EZI	
7918/YHF	7760/ULX	7540/JSR	7540/JSR	7540/JSR	7540/JSR	
7760/ULX	7540/JSR	7760/ULX	7760/ULX	7760/ULX	7760/ULX	
7540/JSR		7918/YHF	7918/YHF	7918/YHF	7918/YHF	
		23740/EZI	23740/EZI			
1415						
6912/KPA		6912/MIW		6912/MIW	6912/KPA	
		7690/KPA				
1430						
7918/YHF	7918/YHF	7918/YHF	13533/EZI	7918/YHF	13533/EZI	7540/JSR
7540/JSR	7540/JSR	13533/EZI	11565/EZI	6986/ART	11565/EZI	13533/EZI
8805/PCD	8805/PCD	6986/ART	8805/PCD		8805/PCD	7918/YHF
6986/ART	6986/ART		7918/YHF		7918/YHF	6986/ART
11565/EZI	11565/EZI		7540/JSR		7540/JSR	
13533/EZI	13533/EZI		6986/ART		6986/ART	
1445						
6912/CIO	6912/CIO	6912/CIO	7605/VLB	7605/VLB	7605/VLB	7605/VLB

7811/SYN	7811/SYN	7811/SYN	6912/CIO	6912/CIO	6912/CIO	6912/CIO
6930/SYN	6930/SYN	6930/SYN	6930/SYN		7811/SYN	7811/SYN
7605/VLB	7605/VLB	7605/VLB	7811/SYN		8641/VLB	8641/VLB
8641/VLB	8641/VLB	8641/VLB	8641/VLB			
1500						
8805/PCD	7760/ULX	13533/EZI	7760/ULX	7760/ULX	7760/ULX	7918/YHF
13533/EZI	15980/EZI	15980/EZI	7918/YHF	7918/YHF	7918/YHF	7760/JSR
15980/EZI	6270/ULX	6270/ULX	13533/EZI	13533/EZI	13533/EZI	13533/EZI
7918/YHF	7918/YHF	7918/YHF	15980/EZI	15980/EZI	15980/EZI	15980/EZI
	5820/YHF	7760/ULX		6270/ULX	6270/ULX	
	13533/EZI	5820/YHF		5820/YHF	5820/YHF	
1515						
6912/MIW	6912/MIW		6912/KPA		6912/KPA	6912/MIW
7690/KPA	7690/KPA		7690/KPA			
1530						
7760/ULX	17410/EZI	17410/EZI	17410/EZI	17410/EZI	17410/EZI	17410/EZI
6270/ULX	6270/ULX	6270/ULX	8805/PCD	8805/PCD	8805/PCD	7760/ULX
8805/PCD	8805/PCD	8805/PCD	7760/ULX	7760/ULX	7760/ULX	8805/PCD
17410/EZI	7760/ULX	7760/ULX	7540/JSR	7540/JSR	7540/JSR	7540/JSR
19715/EZI	7540/JSR	7540/JSR	6270/ULX	6270/ULX	6270/ULX	6270/ULX
7540/JSR		19715/EZI	19715/EZI	19715/EZI	19715/EZI	19715/EZI
5820/YHF						
1545						
7605/VLB	7605/VLB	7605/VLB	8025/CIO	7605/VLB		7605/VLB
6930/SYN	6930/SYN			6912/CIO		6912/CIO
6912/CIO	6912/CIO			8025/CIO		
				8641/VLB		
				7811/SYN		
				6930/SYN		
1600						
6270/ULX	6270/ULX	7918/YHF	13533/EZI	13533/EZI		13533/EZI
13533/EZI	13533/EZI	11565/EZI	4880/ULX	11565/EZI		11566/EZI
10648/YHF	10648/YHF	7760/ULX	11565/EZI	10648/YHF		10648/YHF
5435/ART	5435/ART	10648/YHF	10648/YHF	5091/JSR		5091/JSR
11565/EZI	11565/EZI	7540/JSR	7918/YHF	5435/ART		5435/ART
7918/YHF		6270/ULX	7760/ULX	6270/ULX		6270/ULX
7760/ULX		5435/ART	7540/JSR	7540/JSR		7540/JSR
7540/JSR		13533/EZI	6270/ULX	7760/ULX		7760/ULX
5091/JSR			5435/ART	7918/YHF		7918/YHF
			5091/JSR			
1700	5435/ART					
	6270/ULX					

	4880/ULX				
	5820/YHF				
	7540/JSR				
	5091/JSR				
	4560/YHF				
	4270/PCD				
1715			5339/MIW		
			4780/KPA		
			4165/MIW		
			6912/MIW		
1730		8805/PCD	8805/PCD		
		4560/YHF	5435/ART		
		3840/YHF	3840/YHF		
		5091/JSR	5091/JSR		
		4461/FTJ	11565/EZI		
		3415/ART	13533/EZI		
		4880/ULX	4880/ULX		
		9130/EZI	9130/EZI		
1745		5230/VLB	5230/VLB		
		5170/SYN	5170/SYN		
		4648/CIO	4648/CIO		
			6912/CIO		
			6930/SYN		
1800		4461/FTJ	4461/FTJ		4461/FTJ
		4880/ULX	4880/ULX		4880/ULX
		5091/JSR	5091/JSR		5091/JSR
		5820/YHF	5820/YHF		5820/YHF
		5435/ART	5435/ART		5435/ART
		6840/EZI	6840/EZI		6840/EZI
		7918/YHF	7918/YHF		7918/YHF
		9130/EZI	9130/EZI		9130/EZI
		4270/PCD	4270/PCD		4270/PCD
		10648/YHF	10648/YHF		10648/YHF
					6498/PCD
1815					
4165/MIW	4165/MIW	4165/MIW	4165/MIW	4165/MIW	4165/MIW
4780/KPA	4780/KPA	5339/MIW	5339/MIW	5339/MIW	5339/MIW
5339/MIW	5339/MIW	4780/KPA	4780/KPA	4780/KPA	4780/KPA
6912/KPA	6912/MIW			6912/MIW	6912/KPA
1830					
6270/ULX	6270/ULX	5091/JSR	5091/JSR	5091/JSR	4270/PCD
7760/ULX	7760/ULX	4880/ULX	4880/ULX	4880/ULX	6270/ULX

5091/JSR	5091/JSR	4461/FTJ	4461/FTJ	4461/FTJ	4880/ULX
4461/FTJ	4461/FTJ	4270/PCD	4270/PCD	4270/PCD	5091/JSR
4880/ULX	4880/ULX	3415/ART	6270/ULX	3415/ART	4461/FTJ
13533/EZI	13533/EZI	3150/PCD	11565/EZI	3150/PCD	3415/ART
11565/EZI	5435/ART	13533/EZI	13533/EZI	13533/EZI	3150/PCD
10648/YHF	10648/YHF	10648/YHF	10648/YHF	10648/YHF	5345/ART
9202/YHF	9202/YHF	9202/YHF	9202/YHF	9202/YHF	6270/ULX
9130/EZI	9130/EZI	9130/EZI	9130/EZI	9130/EZI	7760/ULX
4270/PCD	4270/PCD	7760/ULX	7760/ULX	7760/ULX	9130/EZI
3415/ART	3415/ART	6270/ULX		6270/ULX	9202/YHF
3150/PCD	3150/PCD	5435/ART			13566/EZI
5435/ART					11565/EZI
					10648/YHF

1845

5170/SYN	5170/SYN	5170/SYN		5170/SYN	5170/SYN
5230/VLB	5230/VLB	5230/VLB		5230/VLB	5230/VLB
4648/CIO	4648/CIO	4648/CIO		4648/CIO	4648/CIO
6912/CIO	6912/CIO			6912/CIO	6912/CIO
6930/SYN	6930/SYN				

1900

3415/ART	3415/ART	4270/PCD	4270/PCD	4270/PCD	4270/PCD
5435/ART	5435/ART	3415/ART	3415/ART	3415/ART	3415/ART
6986/ART	6986/ART	3150/PCD	6986/ART	3150/PCD	3150/PCD
4270/PCD	4270/PCD	4560/YHF	5435/ART	4560/YHF	5820/YHF
5820/YHF	5820/YHF	4880/ULX	4880/ULX	4880/ULX	6840/EZI
7540/JSR	7540/JSR	5820/YHF	5820/YHF	5820/YHF	7540/JSR
4880/ULX	4880/ULX	6840/EZI	6840/EZI	6840/EZI	9130/EZI
6840/EZI	6840/EZI	7540/JSR	7540/JSR	7540/JSR	11565/EZI
11565/EZI	11565/EZI	9130/EZI	9130/EZI	9130/EZI	5435/ART
3150/PCD	5091/JSR	11565/EZI	11565/EZI	11565/EZI	6986/ART
4560/YHF	4560/YHF			5091/JSR	
9130/EZI				5435/ART	
				6986/ART	

1915

5339/MIW	5339/MIW	5339/MIW	5339/MIW	5339/MIW	5339/MIW
4165/MIW	4165/MIW	4165/MIW	4165/MIW	4165/MIW	4165/MIW
4780/KPA	6912/MIW		4780/KPA	4780/KPA	4780/KPA
	4780/KPA		6912/KPA	6912/KPA	6912/MIW

1930

5091/JSR	3415/ART	3415/ART	3415/ART	3415/ART	3150/PCD
5820/YHF	5820/YHF	4270/PCD	4270/PCD	4270/PCD	4270/PCD
5435/ART	3150/PCD	4461/FTJ	4461/FTJ	4461/FTJ	4461/FTJ
6986/ART	6270/ULX	4880/ULX	4880/ULX	4880/ULX	4880/ULX
6720/ULX	4270/PCD	5091/JSR	5091/JSR	5091/JSR	5091/JSR

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 4270/PCD   6840/EZI   5820/YHF   5820/YHF   5820/YHF              5820/YHF
 3150/PCD   4461/FTJ   6270/ULX   6270/ULX   6270/ULX              6270/ULX
 4880/ULX   6986/ART   6840/EZI   6840/EZI   6840/EZI              6840/EZI
11565/EZI   4880/ULX   6986/ART   6986/ART   6986/ART              6986/ART
 3415/ART   7918/YHF   7918/YHF   7918/YHF   7918/YHF              7918/YHF
 9130/EZI   5091/JSR   9130/EZI   9130/EZI   9130/EZI              9130/EZI
 7918/YHF              11565/EZI   5435/ART  11565/EZI             11565/EZI
 6840/EZI                                    3150/PCD
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1945
 5170/SYN   5170/SYN   5170/SYN   5170/SYN                         5170/SYN
 5230/VLB   5230/VLB   5230/VLB   5230/VLB                         5230/VLB
 4648/CIO   4648/CIO   4648/CIO   4648/CIO                         4648/CIO
 6912/CIO                         6912/CIO                         6912/CIO
 6930/SYN                         6370/KPA
-------------------------------------------------------------------------------
2000
 4270/PCD   4270/PCD   4270/PCD   4270/PCD                         4461/FTJ
 5435/ART   5435/ART   5435/ART   9130/EZI                         4880/ULX
 5820/YHF   5820/YHF   5820/YHF   5820/YHF                         7918/YHF
 9130/EZI  11565/EZI  11565/EZI   4461/FTJ                         5820/YHF
 4880/ULX   4880/ULX   4880/ULX   4880/ULX
 4461/FTJ   4461/FTJ   4461/FTJ   7918/YHF
 7918/YHF   7918/YHF   7918/YHF   2743/ULX
 2743/ULX   2743/ULX   5091/JSR
  3150/PCD  3150/PCD   3415/ART
-------------------------------------------------------------------------------

Frequencies heard in April 2004

   2743   ULX            3150   PCD          3415   ART
   3840   YHF            4165   MIW          4270   PCD
   4461   FTJ            4560   YHF          4648   MIW, CIO
   4780   VLB, KPA       4880   ULX          5091   JSR
   5170   SYN            5230   CIO, VLB     5339   MIW
   5435   ART            5820   YHF          6270   ULX
   6370   KPA            6498   PCD          6840   EZI
   6912   CIO, KPA, MIW  6930   SYN          6986   ART
   7540   JSR            7605   VLB          7690   KPA
   7760   ULX, ART, JSR  7811   SYN          7918   YHF
   8025   CIO            8641   VLB          8805   PCD
   9130   EZI            9202   YHF         10648   YHF
  11565   EZI           13533   EZI         15980   EZI
  17410   EZI           19715   EZI         23740   EZI

                              <<<<<>>>>>

::: E15
```

E15 is apparently still alive and kicking! It was heard on 14000 kHz USB at 1700 and 1800 UTC on 21 April, calling FYP (Frank Young Peter) and then into 5LGs. The station was good audible in Germany.

<<<<<>>>>>

::: V25

Chinese numbers station on 8870 kHz AM at 1400 UTC and 9240 kHz at 1300 UTC. (info: Takashi)

<<<<<>>>>>

::: V26

Chinese and English numbers were heard on 5924//6448//8621 kHz LSB at 1200 UTC. (info: Takashi)

-0-0-0-0-0-0-0-0-0-0-

* MORSE STATIONS *

::: M08a

We learn from Chriss Acuff that M08a has changed its frequencies for its 1200 and 1300 UTC skeds. "It has changed them back to the old sked" Chris said.

1200 UTC:	Monday:	9330
	Tuesday:	10858
	Wednesday:	9330
	Thursday:	10858
	Friday:	9330
	Saturday:	10858
1300 UTC:	Monday:	10566
	Tuesday:	12093
	Wednesday:	10566
	Thursday:	12093
	Friday:	10566
	Saturday:	12093

<<<<<>>>>>

::: M18

Still active on 4073 kHz.

<<<<<>>>>>

::: M21

Russian Air Defense on:

```
4071.5 kHz, id 8
5198   kHz, id 0
5772   kHz, id 0  = 14346820709628
                  = 24346901100824
                  = 14347826592528
5873   kHz, id 0  = 992259??0?????
6323   kHz, id 0  = 992348??0?????
4391   kHz, id 0    time strings
6321.5 kHz, id 0    time strings
```

- M21 variants

```
4825 kHz, 8503092742936
          8504092748236
          336
          850436
          8505092747936 ....
5765 khz, 1929600
          1929602 ...
```

(logs by Fritz and Takashi)

<<<<<>>>>>

::: M22

Frequencies with regular transmissions: 2680, 2800, 4241, 4331, 5159, 6379, 8103, 10046, 12984 kHz.

Additional frequencies: 5024 kHz (18-21 April)
13511 kHz (since 15 April)
18329 kHz (15-23 April)

<<<<<>>>>>

::: M40

V CQ 113.266 on 5590 kHz at 1400 UTC on 12 April.

info: Takashi

<<<<<>>>>>

::: M51

5901.5 kHz 29-3, 1500 UTC
5373//5279.5 kHz 31-3, 1546 UTC = nr 64 m 31 17:47:06 2004 = 5LGx100
4471//7982 kHz 1-4, 1830 UTC
4896.5 kHz 6-4, 1453 UTC = nr 23 a 06 16:53:26 2004 = 5LGx100
4896 kHz 7-4, 1555 UTC = nr 73 a 07 17:55:03 2004 = 5LGx100
5885.5 kHz 8-4, 1930 UTC
4498.5//4895 kHz 14-4, 1535 UTC
5318 kHz 15-4, 1535 UTC
5096 kHz 19-4, 1812 UTC = nr 10 a 19 20:11:58 2004 = 5LGx100
4495 kHz 20-4, 1815 UTC
4484//5476.5 kHz 21-4, 1820 UTC
4758 kHz 22-4, 1825 UTC

(info: Fritz)

<<<<<>>>>>

::: M62

3485//1732 kHz: QR2U QR2U QR2U = KP6F KP6F KP6F +

M62 has been logged on 4396//1732 kHz since December 1999. Changed to 3485//1732 kHz in December 2002 until March 2004. I haven't heard the station on 1732 kHz in April but it is still active on 3485 kHz.

<<<<<>>>>>

::: M82

Takashi logged M82 at 1400 UTC on 4700 kHz. This frequency seems to be used throughout the day as Igor heard the following on 4699 kHz at 2230 UTC, 12 April:

vvv jvg jvg jvg de bml bml bml qsa3 qsa? qtc 521 (R2)
qtc nr 521 36 7 t413 t73t 593 613 =
13651 34914 7t2t1 72923 25696 721t7 t9926
abv
qtc nr 521 36 7 t413 t73t 593 613 =
13651 34914 7t2t1 72923 25696 721t7 t9926
sk sk

<<<<<>>>>>

::: M87

Two M87 intercepts, submitted by Igor.

10518 kHz, 2300 UTC, 31 March

651 651 651 651 651 651 651 651 651 651 000
651 651 651 651 651 651 651 651 651 651 000
651 651 651 651 651 651 651 000
651 651 651 651 651 000

13000 kHz, 0700 UTC, 1 April

792 792 792 792 792 792 792 792 792 792 792 792 792 792 000
792 792 792 792 792 792 792 792 000
792 792 792 792 792 792 000

<<<<<>>>>>

::: M89

"V CP17 CP17 CP17 DE L9CC L9CC" on 7058.5 kHz

A new one was discovered by Takashi on 3570 kHz at 1315 UTC on 30-4:
"V U8OV U8OV U8OV DE 1RMK 1RMK"

Another one submitted by Takashi:
"V BFR7 BFR7 BFR7 DE 4XML 4XML" on 8308//10822 kHz at 1055 UTC (2 May).

<<<<<>>>>>

::: M91

4820//3996 kHz, 26-3/28-3, 0700-1730 UTC
2362//2852 kHz, 26-3/28-3, 1730-0700 UTC
4820//3996 kHz, 29-3/30-3, 0600-1730 UTC (last heard)
2362//2852 kHz, 29-3/30-3, 1730-0600 UTC (last heard)

M91 has been logged first time in May 1999 and then again in March 2003 on the same frequencies. (info: Fritz)

<<<<<>>>>>

::: M93

This is a new station first reported by our friends at Monteria. The station's signal is mostly good in the eastern part if the USA. The signal comes from the south, says our correspondent. Cuba seems to be most likely location. But who is operating this station? Looking at the quality of the transmission, Cuba itself seems to be unlikely.

The station seems to have a daily schedule on 14377 at 2100 UTC. The speed is 15 wpm CW, probably machine keyed as it is very solid.

The messages are 5FGs. Each time it comes on the air, it goes right into traffic. Transmissions start with the letter "V" for 45 seconds, then 4x "M6". No preamble, no cut numbers or barred characters. Always addressed to "M6", at least we assume that M6 is the addressee. It sends no repeat groups; the transmissions end abruptly after the last group with // +.

VVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV
M6 M6 M6 M6

02954 35029 27279 67464 57864 15391 04827 54623 35229 92513
20143 15756 42621 35254 44487 80904 10966 33450 79574 98086
33550 73492 08294 49036 12587 19002 77918 76010 61003 021
 6100 63145 57885 06138 43961 15847 38332 57292 68579 88330
96040 15875 51610 34691 01193 68204 73565 34275 79196 67656
23092 59354 81144 15454 57326 00425 65991 93218 43985 67418
87994 43959 13360 51515 60645 77419 39565 24983 31 49 87862
72726 90182 53018 33182 07769 72930 10008 65424 14440 59670
73511 91082 72615 44433 22126 51207 91256 11807 68514 30582
74570 45197 87763 57715 04051 42414 02157 53647 96046 81781
35698 25498 02154 98745 36587 36954 25847 48756 25847 79847
23658 58475 03695 34587 02541 69587 34897 98745 65479 21452
11115 36985 48598 59847 62313 75412 85479 92587 05874 36589
01114 19874 24789 36984 45621 56984 62314 78954 82136 94568
12354 26513 32541 45699 55694 65894 78955 82265 93254 05642
/ / +

<<<<<>>>>>

::: MX

The "D" beacon has been activated after a period of silence. It was active on a number of frequencies as were most of the other beacons.

D: 5153.7, 7038.7, 8494.7, 10871.7, 13527.7, 16331.7
P: 5153.8, 7038.8, 8494.8
S: 4557.9, 5153.9, 7038.9, 8494.9, 10871.9, 13527.9, 16331.9, 20047.9

C: 5154, 7039, 8495, 10872, 16332
F: 10872.2, 13528.2
K: 7039.3, 8495.3, 10872.3, 13528.3
M: 7039.4, 8495.4, 10872.4, 13528.4, 16331.4

Channel markers:

P: 3291, 3699.5, 3837,
R: 4325.8, 4828, 5465.8
L: 3336.2, 4091.5, 6672.4, 8183 kHz; the latter two are harmonics.
 Note that 3336.2 is often off frequency. Traffic heard on "L":
 1559 UTC on 4091.5 kHz "APO APO APO QSY 2" (off)
 1600 UTC on 3336.2 kHz "APO APO APO QSA ? K"

-0-0-0-0-0-0-0-0-0-0-

* VARIOUS MODES *

XSW 3828.9 kHz, Squeaky Wheel channel marker.
S28 4625 kHz, the Buzzer
S30 3756 kHz, the Pip
XSL 4153, 4231.5, 4291, 6250, 6417, 6445, 8313, 8588, 8703.5 kHz,
 the Slot Machine (Japanese navy)
M42 19880 kHz, Dep. of State Comms, Moscow, 24/4, 1230 UTC,
 MFSK-32/CROWD36. Traffic on unid link.

-0-0-0-0-0-0-0-0-0-0-

* UNID STATIONS *

::: UXSF / Y8FI

Ex 4993 kHz, keying "UXSF" daily at 1600 UTC. Changed to 4632 kHz in
February now keying "Y8F1" at 1600 UTC daily for 2 minutes. Still no
idea who it is.

<<<<<>>>>>

::: 67HG

This one was submitted by Igor:

9403 kHz, 0611 UTC, 14 April. Unid Chinese station.

vvv 67gh 67gh 67gh (R)
id id nr 2t1 1413 = 67gv/kmn8
id id nr 2t1 1413 = 67gv/kmn8
iii iii

<<<<<>>>>>

::: 14772 kHz

14772 kHz, heard on 22/4 in the USA at 2130-2200 UTC. 14 Wpm, 5FGs

(not ANDUWRIGMT cut #s). Ends with "123". The transmission was already in progress so the preamble -if any- was not heard.

<<<<<>>>>>

::: BEEP BEEP

Takashi reports that the "3 pips per 2 seconds" stations are still on 3115//5455//8360 kHz. He heard them again at 2104 UTC on 28-4.

<<<<<>>>>>

::: "2"

The mysterious "2" station from NE China transmits weird messages every now and then. Last month I included a part of such an odd message. Tomonori was so kind to record a complete message that was transmitted on 10140.5 kHz on 28-4 at 0409 hrs.

"305UN550 = 305UN550 = 305UN550 DDDDDDD DDDDDDDDDDD DDDD DDD Q"
and then back to the marker "2" "2"

-0-0-0-0-0-0-0-0-0-0-

* MILITARY STATIONS *

::: CIS NAVY MORSE COMMUNICATIONS
Compiled by Fritz

We received a number of updates to last month's article. Enough for Fritz to rewrite it.

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The Pacific Fleet
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The Mediterranean Eskadra
The Naval Air Force

3. CIS Navy HQ RIW
 Frequencies, call signs and message formats

4. Northern Fleet HQ Severomorsk RIT
 Baltic Fleet HQ Kaliningrad RMP
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 Frequencies, call signs and message formats

5. Naval Air Force AV-MF (Aviatsiya Voyenno-Morskoyo Flota)
 Frequencies, call signs and message formats

6. The station RDL

1. INTRODUCTION

Nowadays there still is much Morse traffic to listen to. And the Navy must have good reasons to do so - even aboard of aircraft. Morse CW is cheap and straightforward; many examples suggest, it often is used as last attempt in case of technical - or propagational problems with fast transmission modes. It is however absolutely clear: the vast amount of data is exchanged by transmission lines via satellite or landline, the keen CW listener is feed off with a few crumbs, don't expect to catch RIW daily on 11000!

Much of the following informations may be outdated, incomplete or even wrong. Please forgive me! I did browse my own loggings, many Navy Websites (with inconsistent contents), some WUN/N&O Newsletters, the archive CD of Klingenfuss Publications, Trond's Website and tried to make the best out of it.

Thanks go to Tom DL8AAM, Ary and several correspondents who wish to remain anonymous, who came up with many useful remarks for the draft of this little work. If you do have additions, corrections, amendments - and there is no doubt, many do - please let the Editor know, thanks.

Fritz

Around 30 years ago monitoring the Soviet Navy Morse communications was very rewarding. Every flotilla had its individual "style". Comparing preambles, call signs or just some habits of the operators frequently allowed listeners to assign the messages unambiguously to a fleet and/or vessel.
Especially the Black Sea Fleet was easy to trace from Europe when they sailed Odessa. Much has changed since complicating the life of the

inclined eavesdropper. Maybe one of the reasons of the modernization was the disastrous Warsaw Pact adventure in the former CSSR 1968. Serious supply gaps, due to comms problems, forced operators to order provisions even in plain Russian.

Years later WAPA came up with a common format of messages for all forces. It is well known and still in use at all tactical and point-to-point CIS networks:

```
162 30 18 1202 162 = 517 = ppppp 5ALG or 5FGx28  azkbz  = 667 +
                        (or 11111)                (or 18028)
```

The preamble may include the senders callsign too. If the message is preceded by the (senders callsign) QTC the message is sent blind or broadcast (to a CQ callsign).

162	message number
30	group count
18	day of month
1202	local time
517	appointment code, a specific person or dept at the addressee

ppppp or 11111	encryption information
5ALG/5FGx28	txt in accented letter groups or figure groups, normally encrypted.

Accentuated letters used in the text are:

Morse Code	spoken
ae .-.-	ja
oe ---.	ch
ue ..--	ju
ch ----	sh

azkbz (or 18028 final group, date and effective groups in message or aeipwi)

The code of the final group is usually as follows and does not contain accentuated letters:

1	2	3	4	5	6	7	8	9	0
a	b	w	g	d	e	v	z	i	k

Another alternative with accentuated letters is this set:

1	2	3	4	5	6	7	8	9	0
ae	w	e	r	t	y	u	i	o	p

+ ar may be replaced by "k", "rpt al QLN +", or similar endings.
QLN = rpt via landline

CIS Navy stations do use this format or variants, e.g. the last group is not coded, group count may differ by 1, etc. The same preamble is used for Meteo bulletins and Nautical Warnings, which in turn, may originate from merchant shipping. As we do not know, to a large extent, the meaning of the call signs, it is not even possible to separate RUS and UKR stations positively.

Without professional DF-Systems, (my Grahn Loop definitely is not good enough) we often cannot assign stations to a geographical region. Even worse: Tactical networks in Russia and Ukraine normally change call signs daily (maybe every ten days). And be careful, when trying to distinguish stations on the base of the local time group: this is the message preparation time, which may differ by hours from the local transmission time. Navy Nautical Warnings often have been issued the day before. Using "CIS" instead of RUS, BLR or UKR keeps me on the safe side. One of our correspondents is perfectly right however with his remark that tactical nets messages are less delayed than naval traffic. You wouldn't see "old" messages in their networks.

2. MAIN BRANCHES OF THE CIS NAVY

Should one include any numbers of ships, aircraft, etc here? They must be wrong, I knew in advance. Which are correct figures? The following numbers come from sources on the net. I received (thanks a lot) however reactions, saying, that "all the numbers are GREATLY exaggerated in all of the fleets". Cutting the number by 2/3 should be ok. The Pacific Fleet for example only has around 15 submarines and "less than 30 combatants of corvette size and up".

Headquarters

HQ	Moscow	Call sign RIW

Northern Fleet

HQ	Severomorsk	Call sign RIT
	a major repair/construction and trials base	
Naval Bases in	Gremikha, mostly abandoned	
	Ura Guba	
	Litsa Gulf	
	Severodvinsk	
	Polyarny	
Home ports for	37 nuclear submarines	
	22 other submarines	
	47 principal surface combatants	

```
                10 coastal and small ships
   Naval Aviation 20 Su-39 fixed-wing aircraft
                10 antisubmarine warfare helicopters
   Shore based aviation 200 combat aircraft
                64 helicopters
   Ground Forces  2 naval infantry brigades
                1 coastal defense regiment
                1 air defense missile regiment

Baltic Fleet
------------
   HQ             Kaliningrad              Call sign RMP
   Naval Bases in Baltiysk
                Kronstadt
   Home ports for 9 submarines
                32 principal surface combatants
                100 other surface vessels
   Naval Aviation 112 combat aircraft
   Ground Forces  1 naval infantry brigade
                coastal rocket unit

Black Sea Fleet
---------------
   HQ             Sevastopol UKR           Call sign RCV
   Naval Bases in Odessa UKR
                Ochakov UKR
                Chernomorskoe UKR
                Novoozernii UKR
                Feodosiya UKR
   Naval Base near Novorossiisk RUS
   Home ports for 44 (*) surface combatant
                80 (*) auxiliary vessels

   (*) Russian and Ukrainian sources state quite different figures.
   After the desintegration of the former Soviet Union 1989 a series of
   agreements arranged the Black Sea Fleets partition between Russia and
   Ukraine.

Pacific Fleet
-------------
   HQ             Vladivostok              Call sign RJS
   Naval Bases in Petropavlovsk-Kamchatskiy
                Magadan, almost completely abandoned by the Navy
                Sovetskaya Gavan, greatly abandoned
   Home ports for 50 nuclear submarines
                25 non-nuclear submarines
                65 major combatants
   Shore based Aviation 250 combat aircraft and helicopters
```

	2 Bomber regiments	
Ground Forces	1 Naval Infantry Division, later reorganised into brigades	

Caspian Flotilla

HQ	Astrakhan	Call Sign unknown, if any
Naval Base in	Aktau KAZ	
planned in	Fort Shevchenko RUS and in Aral RUS	
Home ports for	2 frigates	
	12 patrol boats	
	50 other small vessels	

The Caspian Flotilla is a small fleet for coastal defense and waterways patrol. Command and equipment are shared with Azerbaijan and Kazakstan.

Mediterranean Eskadra

HQ	Tartus SYR	Call sign unknown, if any
Naval Forces	1 aircraft carrier	
	1 destroyer	
	1 frigate	
	1 tanker	
	some nuclear submarines with SLBMs	

The Warsaw Pact ceased to exist in 1991 and the powerful Soviet Mediterranean Eskadra withdrew from the Mediterranean. In 1996 battle ships, guided missiles cruisers and some auxiliary ships of the Russian Navy for the first time again deployed in the Mediterranean to show flag. Since then Russian Navy ships came back to monitor the crisis in former Yugoslavia and for bilateral operations with the US Navy.

Our expert commentator makes the additon however, that today the "Med Eskadra is defunct, and definitely has no carriers, destroyers or SSBNs with SLBMs on board". In Tartus "is always one ship" - sort of auxiliary. Not heavy Morse traffic to be expected thus, I guess.

Naval Air Force (Aviatsiya Voyenno - Morskoyo Flota AV-MF)

Headquarters

HQ	Moscow	Call sign RJF94 (*)

Black Sea Fleet Naval Aviation (VVS ChF)

HQ	Sevastopol UKR	Call sign RJC48 (*)

```
      Bases in    Gvardeyskoye UKR
                  Veseloye UKR
                  Oktyabrskoye UKR
                  Kulbakino

Baltic Fleet Naval Aviation (VVS SF)
------------------------------------
      HQ          Kaliningrad             Call sign RCB (*)
      Bases in    Chkalovsk
                  Nivenskoye
                  Bykhov BLR

Northern Fleet Naval Aviation (VVS NF)
--------------------------------------
      HQ          Murmansk                Call sign RJC38 (*)
      Bases in    Olenia
                  Arkhangelsk
                  Severomorsk
                  Kipelovo
                  Kuznetsov, (comment: aircraft carrier, not an
                                                      airfield)

Pacific Fleet Naval Aviation (VVS PF)
-------------------------------------
      HQ          Vladivostok (?)         Call sign RCH84 (*)
      Bases in    Petropavlovsk
                  Sovetskaya Gavan

     (*) These call signs actually are in use. The allocations would
     make sense, but are absolutely not confirmed.

     Another, quite trustworthy approach I found elsewhere:
         RJF94   HQ Naval Air Transport
         RJC48   Naval Air Transport Southern Sector
         RCB     Naval Air Transport Western Sector
         RJC38   Naval Air Transport Northern Sector
         RCH84   Naval Air Transport Eastern Sector
```

3. CIS NAVY HEADQUARTERS MOSCOW CALL SIGN RIW

RIW is more or less regularly on the air. It listens on several frequencies and answers on 14556 11000 9145 in first instance. Two or all three frequencies may operate in parallel.

Many examples of traffic suggest, RIW prefers to use CW if propagation or technical problems do not allow the use of fast transmission modes. RIW operates very smart, keeps calling for a long time, reduces speed and even uses words in plain. If the station does not comply with

regulations, RIW will tell him soon or even pretend not to understand, thus making the station repeating over and over again the text. The signal becoming weak or nil may mean RIW turns antennas and you may be nulled-out. Don't draw a line from Moscow to your QTH, making guesses: RIW is a function (HQ) and not a transmitter site. Smolensk is just one possibility. Khiva, a large military site and a preferred target for US eavesdropping from former Persia, is situated south of Lake Aral and often mentioned to use RIW. It is not a naval installation however.

As one of its main purposes, RIW allocates frequencies for further traffic, which in many cases is in voice. Two systems are known:

1. "Yakhta" a Voice Scrambler with its typical superimposed 100 Bd FSK signal for key exchange
2. MS-5, a parallel 12 tone 200 Bd Voice Encryption (VOCODER) system, easy to recognise for its pilot tone 3300 Hz above the signal frequency. I was told, a new MS-5 variant is under tests presently. Leif heard it in March 2004 on 7687 kHz with 20 75 bps tones and the pilot tone. If data have to be transmitted CIS Navy would use
 - Navy Broadcast 36-xx (Bee). A synchronous bit stream FSK system starting with 36 Bd. Tfc is in higher speed. (See the note about station RDL).

CIS Navy possibly uses one or several systems of
- Simplex RTTY like CIS-81, CIS-36 MFSK 33 tones or
- Duplex RTTY like CIS-11, CIS-14, etc, systems which are in wide use in RUS Intel and other CIS Forces. The 81-81 two-channel system still seems to be quite "popular", the single-channel variant with 40.5 Bd however less (tnx to the experts for infos), as my knowledge and equipment are just below basics to tell anything clever about that topic. Please consult "WUN's Digital FAQ" with good system descriptions and Baudrate tables.

Examples of traffic with Navy HQ:

For MS-5 traffic RIW would use the following instructions

```
14556   15.8.03   1410z   RFH70 de RIW QSA2 QSA? k  (no answer)
                  1425z   RFH70 de RIW k            (no answer)
                  1437z   RFH70 de RIW k
                  1447z   RFH70 de RIW QYT4 QWH 9700/9700 =
                          12056/12056 QSX 8440/8440 = 12414/12414 k
9700              1450z   MS-5 tfc
14556             1500z   RFH70 de RIW QYT4 QMO ok? k
                          RIW QLS ok? k
                          ......
```

CIS Forces use an extended set of Q-Codes. Some are known, many

others not. Accented letters are not used. Recently I noted the use of "new" Z-Codes. They just replace Q with Z, e.g. ZTC = I have message for you. Doesn't make it easier for us...

QYT4	I will use MS-5 system
QWH 9700/rptd = 12056/rptd	I will send on 9700, alternatively on 12056
QSX 8440/rptd = 12414/rptd	I will listen on 8440, alternatively on 12414
QWH 9700/8536 = 12056/12572	Would mean: The link will run with two parallel frequencies. Doesn't seem to be as popular as it was once.
QYT4 QMO	Adjust your MS-5 system
QLS	Use (upper) alternative frequency or Change frequency!

Luckily we can hear one of the CIS Forces xxx Flash Messages

14556 11.8.03 0730z uuu uuu uuu xxx xxx REO REO 89292 bogarnyj
731 00611 k
.....

uuu - The Cyrillic "Y" used as vvv ?
Friendly people told me, "uuu" gives the message a status less urgent than xxx.

REO - Collective call, unit unknown.

5383 16.11.03 1730z WLHN de RIW xxx xxx IA6N IA6N longbanit
2174 5893 k
.....

WLHN - Is believed to be a collective call.
k - Individual units are asked to confirm.

Messages in the normal CIS format are sent from time to time

14556 11.8.03 0800z RDND de RIW QTC k
RIW 973 22 11 1105 973 = ppppp (5ALG) rpt al RIW k
.....

If a station does not reply fast enough or has other problems, RIW will keep it waiting or will tell it.

10676 11.8.03 0850z RJK69 de RIW QYT4 QSX 9733/9733 = 11094/11094
QWH 12746/12746 = 14600/14600 ok? k
RIW de RJK69 QRS rpt k
RJK69 de RIW QCZ k
RJK69 de RIW QYT4 QSX 9733/9733 = 11094/11094
QWH 12746/12746 = 14600/14600 ok? k

.....
QRS - Send slower
QCZ - You are violating circuit discipline.

Other possibilities might be:
QCA - You are delaying traffic.
QXX - Op hampers traffic, request relief.

Quite often RIW relays messages to others

14556 11.8.03 1400z RFE76 de RIW QTC 411 66 11 1607 411 = sml =
fm RMP = rrrrr (5ALG) RIW k
.....

sml - Priority status, a precedence higher than
routine.

Another example of RIW traffic

14556 10.12.03 0930z RIW QSA? QTC k
RIW 21 22 10 1305 21 = 11111 (5FG) =
rpt al + RIW
.....
RIW rpt corcol 5 17449 k
RIW c k

14556 0950z RAL68 de RIW QRC? k
RIW 416 121 9 0516 416 = fm RIT for RMLZ =
5ALG RIW k
....
rpt corcol 5 - I repeat group 5
QRC ??

Did something go wrong?

14556 7.1.04 1606z RGV82 de RIW QSU1 QSX 8228 ok? k
8228 USB Voice Plain RUS
14566 1618z RGV82 de RIW QSU1 sk RIW k
.....
QSU1 - Use USB Voice Scrambler or Use Morse. There
are several sets of meanings in different CIS
forces.

This time again it lasted a long time to establish a MS-5 QSO.

14556 30.1.04 0915z RMZW de RIW QYT4 QSA4 QSA? k

```
                          RIW QLS QYT4 QSX 12398 ok? k
                          RIW QCM QYT4 QCM k
12398             0958z   tfc MS-5
                          .....
                  QCM -   Your transmission is affected by technical
                          problems.
```

RIW ITU registrations amounts to 76 frequencies. The following may be worth to try.

14556//11000//9145	RIW exclusive, primary listening/answering
4956	10676
5128	10825
5383	12056
7580	12329
8523	12736
8536	12746
8678	12825
8788	12948
9523	13086
9573	13110
9700	14024
10176	14086
10388	14600

RIW has contacts to many stations, some of them are listed here. Most of the call signs I cannot assign. Namely the meaning of collective calls are of vital interest to get any further.

The RMxx calls are most probably Naval Vessels, but this is not the case for ALL RMxx calls: RMXV, RMEG, RMDZ, RMBB, RMLZ, RMUE.

R*** probably Naval Vessels: RBIZ, RCJG, RCRE, RDND.

```
RMP    HQ Kaliningrad
REO    Collective call (units unknown)
WLHN   Collective call for Naval Vessels (units unknown)
```

Navy call signs, nowadays some warships appear to use this format too: RAL46, RAL59, RAL68, RFE76, RFF78, RFH70, RFV99, RFX56, RGV82, RJH25, RJH57, RJK69, RJT22, RLA88.

```
4. THE  NORTHERN FLEET HQ (RIT)
        BALTIC FLEET HQ (RMP)
        BLACK SEA FLEET HQ (RCV)
        PACIFIC FLEET HQ (RJS)
```

Due to propagational reasons I wasn't lucky enough to copy RJS so far. RIT didn't appear often in my logbook recently. RMP and RCV clearly favour certain frequencies and their Weather Forecast - or Nautical Warnings Broadcasts can't be missed. They are sent in plain language and seem to correspond to those transmitted by Coastal Stations. The header used is the normal preamble. RCV is nearly daily on 5775 around 1600z. We may assume, that the call signs RKZ and REO used for Fleet Broadcasts are collective calls. Knowing collective calls used by RJS would help us much. Sometimes HQs maintain contact with other stations. Traffic may be Duplex - or Simplex Mode. Messages are 5FG or 5ALG with or without encryption group and coded end-group. Coincidence or not: I never copied these HQs with an xxx-message.

Some examples of traffic follow:

5224	12.2.03	0440z	RGX94 de RCV QTC 726 40 12 0450 726 = nawip = txt is Naut. Warnings +
			nawip - often used, similar to outdated NAWS of NATO ?
4079	12.2.03	2050z	RKZ de RMP QTC 104 23 12 2222 104 = fm RJD69 = 22222 5FG(x21) 12021 + RJD69 a special call sign, very often used
6873	24.11.03	1533z	RJD69 de RMP QYT4 QSX 5456 k
			RJD69 - this time called as station
3181	11.5.03	2037z	ZRK7 de RMP QTC 281 22 12 0012 281 = fm RJD69 = 5FG(x23) k
			ZRK7 - A tactical callsign, as used by the Baltic Fleet warships.
11155	13.4.03	1421z	ROK81 de RIT QTC 607 27 1754 607 = sml = 4FG = + RIT k ok k ok QRU k
			4FG - rare, but it happens.
11155	4.3.04	1515z	RKW95 de RIT QSA1 QSA? k RIT QRV k (receives msg number 809) RIT QSL 809 k r k
11155	6.3.04	1420z	same as 4.3., daily routine messages?

```
 6873  14.7.03   1530z   RMAE de RMP QSX 4948 QWH 3685 k

                         RMAE - Naval Vessel

 5916   9.12.03  1540z   RKZ de RCV QTC 179 114 9 1600 179 = prognoz
                         pogody ot 1800 9 do 1800 10 dehabr% ...
                         (Meteorological Bulletin)

 6873   8.2.04   1550z   REO de RMP QTC 671 41 8 1815 671 = sml =
                         baltijskoe more opoweqenie nr 490 ....
                         (Nautical Warning)

 4055  13.2.04   1645z   RIC87 de RCV QTC 168 37 13 1600 168 = nawip =
                         031 256 karta 35120 ukraina .....
                         (Nautical Warning)
```

N&O Newsletter Nr.70 received this logging:

```
 7632    ??      0030z   RJS QSL QRR3   vvv vvv
                 later   RGK39 de RJS QSA? k
                 0600z   QSO RJS with RMAZ and RJQ60
```

Some current frequencies:

```
  RIT: 5343, 6934, 7467, 11155 kHz
  RMP: 3181, 4079, 5213, 5881, 6873 kHz
  RCV: 4055, 4885, 5224, 5775, 5916 kHz
  RJS: 3594, 10203, 13636, 13907 kHz

RIT recently had QSO with: RLA88, ROK81, RKZ, RJI64, RMLZ, RFE76,
                           RJD80, RKW95
RMP recently had QSO with: REO, RIW, RJD69, RKZ, RUD76, RMAE, RGS57,
                           RKF80, RJI64, ROK81, RFF79, RGV82, LFJ1,
                           ZRK7
RCV recently had QSO with: RCJE, RHC84, RKZ, RGX94, RBE86, RMBB,
                           RIP90, RIC87
```

Other call signs beginning with R*****

There are MANY other call signs of which it is not clear, whether they really are Navy calls. Many can be heard having QSOs, others are somewhere listed, but never have been copied. Here follow a few examples:

3LG call signs

```
--------------
RAC:               Navy               Collective Call of RJS?
```

RAM, RIF, RKS, ROT:	Moscow	Navy
RCN:	Stepnyak	Unid
RFA:	Astrakhan	Unid. Coastal station?
RIB:	Moscow	Unid
RJV:	Tiksi	Navy
RKL, ROD:	Murmansk	Navy
RMG:	Saratov	Navy
RMT:	Chelyuskin	Navy Antarctica
ROR:	Nizhniy Novgorod	Navy. N.N. was Gorki
RUA:	Petrozavodsk	Unid. Coastal station?
RUF:	Sevastopol	Unid. Coastal station?
RUT:	Unid	Navy
RUH:	Unid	Unid

4LFG call signs (I think not all are Navy)

RAL2, RFH2, RDU2: Interesting ones, sometimes hopping around on many frequencies. NCS is RAL2 asking "QSA" and, if satisfied, tells next frequency. Testing frequencies?

REK4:	Unid
RFP8:	Povorothny
RFR6:	Pioner Sovkhoz
RKA2:	Unid
RHW2:	Unid
RLO2:	Unid
RMW2:	Unid

5LFG call signs (May be Mil, Meteo, TS, Intel, Mil Navy)

RAL46, RAL59, RAL68:	Navy
RFF78, RFF79:	Navy
RGX94, RGX96:	Navy
RJD80, RJD85, RJD99:	Navy
RMW32, RMW33, RMW36:	Navy

One of the comments that I got: "...not all Rxx## calls are vessels and not all are Navy.... They pick and choose. Shore stations use Rxx## calls too".

5. NAVAL AIR FORCE AV-MF

Please remember the reservation made in 2. concerning call sign allocations and the correct designation of these forces.

8816 kHz is allocated to Aeronautical Mobile Services for the following Regional And Domestic Air Routes Areas:

4A	North West Africa
6G	China
12C	Mexico
13J	Brasil
14A	South of Australia

8816 is regularly, but obviously illegally, used by CIS Naval Air Forces. Consequently their Four-Letter Location Indicators are for "internal" use. XLLS, XMKK, etc apparently are used because ICAO did not assign the X*** series. ULOL Velikiye Luki, a town about 400 km West of Moscow, is often served and does belong to the Russian Federation Series UL** of Location Indicators. UMWS most probably is an airport in Kaliningrad or Belarus, but not officially listed.

Let's have a look at the following example. Aircraft 26855 reports his flight from location XMKK to location XMKK. On its way it passes UMWS and ULOL and will, later in the evening, return to XMKK. Reports are made to the Regional Air Traffic Control RCB and to the HQ RJF94. Both stations do repeat the whole message until acknowledgement by the mobile.

8816 kHz, 30.01.2004

1535z RJF94 RCB de 26855 QSA? QTC k
26855 de RJF94 QRV k
26855 de RCB QRV k
26855 QTO QTR 1525 QRD XLLS XMKK QRE UMWS 1625 QAH 5700 k
(RJF94 repeats message) k
26855 ok k
(RCB repeats message) k
26855 ok k

1624z RJF94 RCB de 26855 QTC k
26855 de RJF94 QRV k
26855 de RCB QRV k
26855 QQL UMWS 1622 QRE ULOL 1720 QAH 5700 QBD 0330 k
(message repeated and acknowledged)

1715z RJF94 RCB de 26855 QTC k
26855 de RJF94 QRV k
26855 de RCB QRV k
16855 QQL ULOL 1710 QAL XLLS 1805 QAH 5400 QBD 0300 k
(message repeated and acknowledged)

1800z RJF94 RCB de 26855 QTC k
26855 de RJF94 QRV k
26855 de RCB QRV k
26855 QQM XLLS 1806 k

(message repeated and acknowledged)

2005z RJF94 RCB de 26855 QTC k
26855 de RJF94 QRV k
26855 de RCB QRV k
26855 QTO 1950 QRD XMKK XLLS QRE ULOL 2100 QAH 5400 k
(message repeated and acknowledged)

(continued....)

Official Q-Code series as well as CIS Codes are used:

QTC	I have message for you.
QRV	I am ready.
QTO	I am airborne or I started at ... (hours).
QTR	The time is ... (UTC used).
QRD	I am bound for ... from
QRE	Estimated time of arrival at/over ... (place)is ... (time).
QAH	Flight level/altitude is ... (in meters or barometric pressure in a standard atmosphere)
QQL	I have passed ... (place) at ... (time).
QBD	Fuel endurance is ... (hours and minutes).
QAL	I estimate to land in ... (place) at ... (time).
QQM	I will land in ... (place) at ... (time).

The following contacts have been logged:

Aircrafts 26858, 26855, 26896, 26869, 52880 had QSOs with the ATCs and HQ. RJF94 had QSOs with the ATCs. The ATCs had QSOs among themselves. Only RJC48 once contacted a "foreign" station: RDG90.

6. THE STATION RDL

Listening to the CIS Forces communications without copying sooner or later RDL is rather unlikely. Officially it is listed as CIS Military HQ Moscow and many transmitting sites like Molodechno, Smolensk, Arkhangelsk, Krasnodar, Tashkent or Nizny Novgorod show up. A reasonable conclusion suggests RDL does form part of a VLF network together with RLO (St. Petersburg) and RKS (Moscow), both belonging to the CIS Navy. I believe RDL has to do with the CIS Navy, but unfortunately don't have any information about RKS and RLO.

RDL officially is listed on 19 frequencies, probably not all the right ones for the inclined listener Try these (no guarantees here):

4031, 6902, 7008, 7657, 9182, 10535, 10490, 11139, 11468, 11470, 12740, 12832, 14300, 14656, 14664, 19257.5, 20096, 21284, 22864 kHz.

The most popular frequency however is 18.1. RDL is regularly on the air, traffic is on both in Morse CW and BEE/36-50 (a FSK synchronous bitstream system, starting with 36 Bd, then changing to 50 Bd)for Navy Broadcasts and maybe other military branches. If you attempt to copy RDL on 18.1 be careful: the French Station HWU on 18.3 may interfere. With a ferrite rod antenna HWU is nulled out (hopefully!). Never mind, if your receiver doesn't cover 18.1. Often enough other frequencies are in parallel, e.g. 12832 or 19257.5. Patience is required!

Some sample messages of RDL:

18.1 29.1.04 0945z uuu uuu RDL RDL RDL
88732 32267 88732 32267 88732 32267 k

A very common format, always two 5FG rptd. The "uuu uuu" bit indicates it is routine. It has been suggested, these messages may be compared with the status messages of the G and NL Navy, just a sort of authentication, checking whether everything is ok.

18.1 29.1.04 0917z xxx xxx (then continues with 36-50)

XXX sent in Morse indicates a flash message. I do have my doubts however - there are so many of them. We may assume anyway, XXX should get attention for a message of high priority. (note; the XXX messages can be compared with the USAF EAM's. There are many EAM's a day, therefore the number of XXX messages is not a criterion. -Ary-)

10535 16.3.03 1500z XXX RDL 54837 33099 bajdvarahi 4572 9942 k (x2)
uuu xxx 12746 51118 bir¸zomyj 8887 0840
birmanskir 0495 5997 k

22864 16.2.04 1009z XXX XXX RDL RDL 20699 werwica 5690 01 1357 1247 k

7657 18.2.04 1610z XXX XXX RDL RDL 25120 08122 oteoina 2928 4286 k

Listeners delight: many xxx msgs on RDL. What are they meant for? They seem to use a certain set of codewords, some of them show up again after years and on different nets. Example: "ESUP", you'll find it back into the 90ies. XXX is like snooker: thrilling to watch, but I have no idea about the rules.

I never copied RDL having contact with an individual call sign or using

the usual CIS preamble.

RDL seems to be of great importance, understanding its habits would bring us ahead considerably.

<<<<<>>>>>

Logs and info supplied by Fritz, Jim, Sergey, Maciej and John.

Freq.	QSX	Callsign / remarks
18.1		RDL; Russian Military VLF Site Krasnodar.
3263	3263	DVB4, A66J, 8UYB, SJJQ, IVZ7
3334		DCAL, TSTW, 2AKF
3348		MFDX, 8PNT, 9PYZ, NKDS, 8WS9, JKFA, T1QW, PPB3, A2P2, GOAS
3363		SQQJ, 1BOS: SJJQ
3538		TD2P, MICX, OO4P, FAMR, 76SG, 5UHP, MBQ1, TVJA
3884		3KQL, RGB6, TENC, CXDD, T3T6, CUFY, PTXD, IPAE, X7LK, P5KL, JNXX, V9FX, JMXX
3899		ZX4M, D47G
3954		QE6S, 9XDU
4021		1TDU, ATPE, 6GNJ, MHYR
4051		AI1R, FS1P
4379		REA4: AFHQ Moscow //5157 kHz
4446		RDL
4447		3LTT, 6NTL, C13N, CS4U, 5GOF, YFAK, TBTG, 4E7K, BRBS
4456		7PNI, QC1Q, SCZI, CQMT, BJ9X, XCJ2, CPYU
4503	4503	B9Y9, NKT6
4898		ZM1E, PNTP
5157		REA4: AF HQs Moscow //4379 kHz
5407		8Q6T, BCIP, ZS76, PV2A, XXTJ, 3LPK, 6I5X, NU1D
6329	6329	RHC93 wkg RIR2 with scrambled morse setup ZZV ZZD3 ZZD3 K. ZDS ZZT. LVVMMMLKLMVKLVLL ... IMRX DRUACU.
6339		ZRI1, NB2W, 5TOB
7003		RGT77 RGT77 = 3LG = 5ALG k
7041		DFYQ, BCTP, QHNV,4TS4, LJ6J, GO6V, X18H,
7050		LG5Q
7056		NN4W, 9HAZ, L44V, NIBS, MGIE, Y65I, 9AW9, WO4N, 5GXS, F6EF, 5GXS, 5ZOK, GIJ2, WKPT
7932		OLFA, WKGK
7964		3H2K, EGYE
13004		F5MQ, LEV1
13843		YTOS
14300		RDL: "UUU UUU RDL RDL 21288 91676 k"

- Sample messages:
 188 25 2 0108 188 = ZVT 857 = PPPPP ZIHoF ... TaACU PWPWP = 209 K

759 50 1 2252 759 = ZUT 117 = PPPPP JaEAa ... uTLSG PaPRY = 617
RPT AL K

677 29 3 0048 677 = 936 = ohoNC MMMMM UBWBS ... MKhVZ PEPWY = 475
RPT AL K

LEV1 de F5MQ ZUP ZUZ ZUP ZUZ K. AS. NW FOR QRJ? K

PNPT PNPT PNPT DE ZM1E ZM1E QTC 737 62 8 1738 737 = 867 =
44327 68943

TSTW de DCAL ZXO ZUO ZFK ZUO ZUL ZFN QRR3 K. OK K. R K.

- Unid

This unid station is possibly also a CIS military station (see also last month's unid VTI8).

"No trace of VTI8 bcsts at 55-05 and 25-35 minutes each hour today (5 April)" says Attu. "However, at 07-17 and 37-47 minutes each hour, callsign SFO3 was active on 3699 kHz.

<<<<<>>>>>

::: POLISH MILITARY

Freq.	Callsign
2028	Centrum01
2705	UWAGA! UWAGA! Tu Warmia, Angora Tecza Izera Fala 8307. (Air Defense, Malbork -unconfirmed-) UWAGA! UWAGA! TU Hawana, Hawana. Exercise??? (Fighter Squadron in Poznan/Powidz region -unconfirmed-)
2448	Uwaga Tu Warmia", same tx as on 2705 kHz.
4146	unid Polish navy
7783	Polish military in Bosnia.

-0-0-0-0-0-0-0-0-0-0-

* INTELLIGENCE PROFILE: ARMENIA *

::: BACKGROUND
Armenia prides itself on being the first nation to formally adopt Christianity (early 4th century). Despite periods of autonomy, over the centuries Armenia came under the sway of various empires including the Roman, Byzantine, Arab, Persian, and Ottoman. It was incorporated into Russia in 1828 and the USSR in 1920. Armenian leaders remain

preoccupied by the long conflict with Muslim Azerbaijan over Nagorno-Karabakh, a primarily Armenian-populated region, assigned to Soviet Azerbaijan in the 1920s by Moscow. Armenia and Azerbaijan began fighting over the area in 1988; the struggle escalated after both countries attained independence from the Soviet Union in 1991. By May 1994, when a cease-fire took hold, Armenian forces held not only Nagorno-Karabakh but also a significant portion of Azerbaijan proper. The economies of both sides have been hurt by their inability to make substantial progress toward a peaceful resolution.

::: GENERAL
Country name : Republic of Armenia (Armenia)
Local name : Hayastani Hanrapetut'yun (Hayastan)
Capital : Yerevan

Administrative divisions: 11 provinces (marzer, singular - marz); Aragatsotn, Ararat, Armavir, Geghark'unik', Kotayk', Lorri, Shirak, Syunik', Tavush, Vayots' Dzor, Yerevan

::: MILITARY BRANCHES
Army, Air and Air Defense Forces, Border Guards.

::: INTELLIGENCE
In the early 1990s, internal security was endangered by growing radical opposition to the moderate domestic and foreign policies of the Ter-Petrosian government. By 1993 a widespread breakdown of law and order in the republic had eroded the authority of the Armenian state.

Shortly after independence, a special internal security force was formed under the Ministry of Internal Affairs, whose special status in the government alarmed many observers in the ensuing years. The original mission of the internal security force was to prevent guerrilla attacks on military installations in the first months of independence. Since that time, this militia also has acted as the sole general police force. Elements of the former KGB have remained active under Armenian direction.

Border patrols are administered by the Main Administration for the Protection of State Borders. Some of the patrols on the Iranian and Turkish borders are manned by Russian troops, whose presence is partially funded by Armenia. The rest of the border patrols are made up of Armenian troops serving under contract.

In early 1994, Armenia completely reorganized the State Administration for National Security (SANS), the umbrella agency of the Ministry of Internal Affairs that heads all national security activities.

In the period between 1996 and 1998 both the police and the special

internal security force were under the Ministry of Internal Affairs. Following Decree 19.12.02 the department was divided into two separate ministries, namely the Ministry of National Security and the Ministry of Internal Affairs. The first one is now responsible for the special services and the second one is responsible for the police.

Armenia's special troops have the same structure as the Russian army's special forces. The Ministry of Defence is responsible for these units.

- Ministerstvo Nacionalnoy Bezopastnosti (MNB)
 Ministry of National Security

The main special service of the country is the Ministerstvo Nacionalnoy Bezopastnosti. According to some sources, there are currently two special units under the MNB; "Alpha" and the Department of Counter-espionage. Alpha's main responsibilities are the protection of the State officials and the struggle against terrorism.

It is a well known fact that Armenia's main political opponents in the region are Azerbaijan and Turkey. Therefore it is no wonder, that from time to time Turkish and Azerbaijan spies are unmasked and that Armenian spies are captured in these two countries. Because of the problems with its nearest neighbours, Armenia maintains strong ties with the Russians. As a result of this Russian special forces operate sigint stations from Armenian soil and Armenia's air defense is a joint effort of Armenia and Russia.

(Sources: Agentura (www.agentura.ru), CIA World Factbook, Library of Congress Country Studies, USA)

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* LOGS SECTION *

Thanks for submitting over 600 logs this month via WUN, Spooks or sent directly to me. Chris Acuff listened not only from his home in the US but he also used 3 remote receivers in Sweden and the UK. I must try a remote receiver in the Far East sometime!

2680	M22	4XZ. Israeli Navy, Haifa CW 29-4-2004 2245 (TY)
2844.0	E10	YHF2 USB 23-4-2004 Fri 0005 (BS4)
3025.0	M08a	ID 54501 01321 75812 CW 17-4-2004 Sat 1000 (MS)
3025.0	M08a	ID 04063 48433 29403 (AR=OE, BT=K) CW 20-4-2004 Tue 1000 (MS)
3150.0	E10	PCD 22 IZTKU USB 6-4-2004 Tue 0300 (BS4)
3244.0	M08a	ID 04061 48431 24401 CW 17-4-2004 Sat 1000 (MS)
3292.0	V02a	strong/readable, ID is 59692 96963 67595 USB 6-4-2004

```
                Tue 0200 (CrA-1)
3292.0  V02a    very weak/mostly unheard, into message USB 20-4-2004
                Tue 0200 (CrA-1)
3336.0  MX      L marker CW 12-4-2004 Mon 0019 (LC2)
3336.2  MX      Channel marker "L" CW 18-4-2004  2124 (AB)
3389.0  V02a    strong/readable, into message USB 6-4-2004 Tue 0100
3389.0  V02a    very weak/mostly unheard, into message USB 20-4-2004
                Tue 0100 (CrA-1)
3485    M62     QR2U QR2U QR2U = KP6F KP6F KP6F = + CW 25-4-2004  0505
                 (AB)
3756    S30     the Pip CW 18-4-2004  2118 (AB)
3756    S30     Pip CW 28-4-2004  2255 (TY)
3757.0  S30     USB 9-4-2004 Fri 0020 (LC2)
3757.0  S30     USB 11-4-2004 Sun 0020 (LC2)
3757.0  S30     USB 12-4-2004 Mon 0019 (LC2)
3828.9  XSW     Squeaky Wheel channel marker  19-4-2004  1955 (AB)
3830.0  XSW     USB 12-4-2004 Mon 0019 (LC2)
3926.0  M08a    i/p CW 4-4-2004 Sun 0418 (BM)
3926.0  M08a    ID 04062 29402 48432 (AR=OE, BT=K) CW 18-4-2004 Sun
                1000 (MS)
3926.0  M08a    ID 57292 06691 09121 (AR=OE, BT=K) CW 21-4-2004 Wed
                1000 (MS)
3927.0  M08a    ID 05316 53742 81746 CW 4-4-2004 Sun 1000 (MS)
4016.0  S11a    strong/readable, ID is 971, no msg USB 7-4-2004 Wed
                2100 (CrA-2)
4028.0  V02a    USB 1-4-2004 Thu 0500 (JK)
4028.0  V02a    USB 2-4-2004 Fri 0600 (CrA-1)
4028.0  V02a    fair/readable, into message USB 3-4-2004 Sat 0300
4028.0  V02a    fair/readable, into message USB 9-4-2004 Fri 0100
4028.0  V02a    strong/readable, ID is 99022 61673 37396 USB 16-4-2004
                 Fri 0100 (CrA-1)
4028.0  V02a    weak/readable, into message USB 23-4-2004 Fri 0100
4028.0  V02a    strong/readable, into message, M8a in bg USB 24-4-2004
                 Sat 0300 (CrA-1)
4030    M10     432/38  //6758 kHz CW 14-4-2004  1910 (FN)
4035.0  V02a    fair/readable, into message USB 7-4-2004 Wed 1200
4035.0  V02a    very weak/mostly unheard, i/p USB 14-4-2004 Wed 1200
                (CrA-1)
4035.0  V02a    (in progress) YL/SS AM 17-4-2004 Sat 1000 (MS)
4071.5  M21     Russian Air Defense. Id 8 CW 5-4-2004   (TY)
4073    M18     ...2313 2313 2313 2313 2314 2314 2314... CW 9-4-2004
                1913 (FN)
4073    M18     Time strings (UTC+3) CW 10-4-2004  2355 (TY)
4152.5  XSL     USB 3-4-2004 Sat 1400 (JK)
4165.0  E10     "MIW 2" USB 10-4-2004 Sat 2215
4165.0  E10     "MIW 2" USB 18-4-2004 Sun 0015
4165.0  E10     MIW2//5339 USB 28-4-2004 Wed 0115 (BS4)
4173.0  M08a    ID 05316 53742 81746 (rpt of 1000z on 3927m) CW
```

```
                4-4-2004 Sun 1100 (MS)
4173.0  M08a    ID 04062 29402 48432 (rpt of 1000z on 3926m) (AR=OE,
                BT=K) CW 18-4-2004 Sun 1100 (MS)
4173.0  M08a    ID 57292 06691 09121 (rpt of 1000z on 3926m) (AR=OE,
                BT=K) CW 21-4-2004 Wed 1100 (MS)
4325.8  MX      Channel marker "R" CW 18-4-2004  2119 (AB)
4325.8  MX      Channel marker "R" CW 20-4-2004  1929 (AB)
4331    M22     4XZ. Israeli Navy, Haifa CW 29-4-2004  2245 (TY)
4461.0  E10     weak/readable, into message USB 3-4-2004 Sat 0300
4461.0  E10     FTJ 37 IXZRI USB 7-4-2004 Wed 0100 (BS4)
4461.0  E10     FTJ 192 ?YKPP USB 8-4-2004 Thu 0100 (BS4)
4461.0  E10     FTJ in tfc USB 8-4-2004 Thu 0300 (BS4)
4461.0  E10     FTJ2 USB 9-4-2004 Fri 0100 (BS4)
4461.0  E10     FTJ 66 NHZIZ USB 24-4-2004 Sat 0100 (BS4)
4461.0  E10     FTJ 61 OFCA? USB 25-4-2004 Sun 2330 (BS4)
4461.0  E10     FTJ 45 SEULU USB 28-4-2004 Wed 0100 (BS4)
4478.0  M08a    ID 54501 01321 75812 (rpt of 1000z on 3025m) CW
                17-4-2004 Sat 1100 (MS)
4478.0  M08a    ID 04063 48433 29403 (rpt of 1000z on 3025m) (AR=OE,
                BT=K) CW 20-4-2004 Tue 1100 (MS)
4479.0  V02a    weak/readable, into message USB 7-4-2004 Wed 0300
4557.9  MX      Cluster beacon "S" CW 18-4-2004  2121 (AB)
4557.9  MX      Cluster beacon "S" CW 19-4-2004  2125 (AB)
4560.0  E10     YHF2 AM 17-4-2004 Sat 0230 (BS4)
4625    S28     the Buzzer  18-4-2004  2115 (AB)
4632.3  S28     Buzzer AM 30-4-2004 Fri 0000 (SMA)
4648.0  E10     "MIW 2" USB 2-4-2004 Fri 1900
4699    M82     vvv jvg jvg jvg de bml bml bml qsa3 qsa? qtc 521 (R2)
                CW 12-4-2004  2230 (IB)
4700    M82     N.Korean numbers station CW 28-4-2004  1400 (TY)
4780.0  E10     "KPA 2" USB 2-4-2004 Fri 1900
4780.0  E10     KPA2//6370 USB 28-4-2004 Wed 0115 (BS4)
4835    M10     227/17 424/41 CW 12-4-2004  1820 (FN)
4851    M01     id 210 CW 20-4-2004  1822 (FN)
4880.0  E10     ULX2 USB 7-4-2004 Wed 0330 (BS4)
4880.0  E10     ULX in tfc USB 13-4-2004 Tue 0230 (BS4)
4880.0  E10     ULX 29 AONZA USB 15-4-2004 Thu 0230 (BS4)
4880.0  E10     ULX2 USB 15-4-2004 Thu 2230 (BS4)
4880.0  E10     "ULX" USB 18-4-2004 Sun 0030
4880.0  E10     ULX 94 SFKVN USB 19-4-2004 Mon 0030 (BS4)
4880.0  E10     ULX2 USB 23-4-2004 Fri 0030 (BS4)
4880.0  E10     ULX 49 MNKCZ USB 26-4-2004 Mon 0030 (BS4)
5018    M01     CW 20-4-2004  2000 (FN)
5091.0  E10     JSR2 USB 7-4-2004 Wed 0330 (BS4)
5091.0  E10     "JSR" USB 10-4-2004 Sat 2200
5153.7  MX      Cluster beacon "D" CW 5-4-2004   (x-10)
5153.9  MX      Cluster beacon "S" CW 18-4-2004  2122 (AB)
5153.9  MX      Cluster beacon "S" CW 19-4-2004  2125 (AB)
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5159    M22    4XZ. Israeli Navy, Haifa CW 29-4-2004  2245 (TY)
5159.0  M22    CW 17-4-2004 Sat 0154 (TN)
5170    E10    SYN A50B2  //6912 kHz AM 29-4-2004  1930 (AB)
5170.0  E10    "VLB 2" USB 8-4-2004 Thu 1930
5230    E10    VLB 7Z28Z82 AM 25-4-2004  2117 (AB)
5230    E10    VLB7Z28Z82 AM 25-4-2004 Sun 2133 (HFD)
5230.0  E10    VLB2 USB 28-4-2004 Wed 0045 (BS4)
5287    M01d   ...333 42251 42251 R2 (pause)  260 260 333 43721
                 43721 R2 (pause) 33 333 04 05 (pause) .. CW 6-4-2004
                 1553 (FN)
5301    S17C   81034, //8190 AM 2-4-2004 Fri 1250 (HFD)
5301    S17C   56031, //8190 AM 4-4-2004 Sun 1250 (HFD)
5301    S17C   70033, //8190 AM 7-4-2004 Wed 1250 (HFD)
5301    S17C   71032, //8190 AM 8-4-2004 Thu 1250 (HFD)
5301    S17C   76035, //8190 AM 9-4-2004 Fri 1250 (HFD)
5301    S17C   70034, //8190 AM 10-4-2004 Sat 1250 (HFD)
5301    S17C   73033, //8190 AM 11-4-2004 Sun 1250 (HFD)
5301    S17C   82034, //8190 AM 15-4-2004 Thu 1250 (HFD)
5301    S17C   77034, //8190 AM 17-4-2004 Sat 1250 (HFD)
5301    S17C   78032, //8190 AM 24-4-2004 Sat 1250 (HFD)
5301    S17C   89034, //8190 AM 25-4-2004 Sun 1250 (HFD)
5301    S17C   81033, //8190 AM 26-4-2004 Mon 1250 (HFD)
5301    S17C   76033, //8190 AM 28-4-2004 Wed 1250 (HFD)
5301    S17C   64048, //8190 AM 29-4-2004 Thu 1250 (HFD)
5339.0  E10    MIW2//4165 USB 28-4-2004 Wed 0115 (BS4)
5417.0  V02a   strong/readable, ID is 86864 67592 USB 2-4-2004 Fri
               0200 (CrA-1)
5417.0  V02a   fair/readable, ID is 86866 42851 44275 USB 9-4-2004
               Fri 0200 (CrA-1)
5435.0  E10    ART2 USB 23-4-2004 Fri 0005 (BS4)
5435.0  E10    ART2 USB 28-4-2004 Wed 0130 (BS4)
5437.0  E10    "ART" USB 18-4-2004 Sun 0030
5442    G06    947-123/460=67765 AM 23-4-2004 Fri 1930 (HFD)
5442.0  G06    strong/readable, ID is 927?, gc is 123? AM 9-4-2004
               Fri 1930 (CrA-3)
5465.8  MX     Channel marker "R" CW 12-4-2004  1922 (RGA)
5465.8  MX     Channel marker "R" CW 18-4-2004  2119 (AB)
5465.8  MX     Channel marker "R" CW 20-4-2004  1929 (AB)
5473    M01    CW 20-4-2004  1810 (FN)
5474    M14    ...5FG 29756 87238 (pause) 00000 CW 14-4-2004  1925
5474.0  M13    411 (R5) BT 260 21 BT CW 4-4-2004 Sun 0430 (MS)
5590    M40    V CQ 113.266 CW 12-4-2004  1400 (TY)
5680    S06    624:0 AM 13-4-2004 Tue 1800 (HFD)
5705    M10e   88501 25476 CW 14-4-2004  0725 (FN)
5770    M01    CW 5-4-2004  1500 (FN)
5788    M12    in progress. Ends 000 000 CW 7-4-2004  1745 (FN)
5820.0  E10    "YHF 2" USB 2-4-2004 Fri 1930
5820.0  E10    YHF 35 PMZOT/7918 AM 9-4-2004 Fri 1800 (JS3)
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5924    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               4-4-2004  1200 (TY)
5924    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               11-4-2004  1210 (TY)
5934    G06    579-123/96=67165 BC interference AM 22-4-2004 Thu 1830
                (HFD)
5940    M01    id 159 CW 25-3-2004  1600 (FN)
5946    M10    CW 12-4-2004  1510 (FN)
6250.0  XSL    USB 29-4-2004 Thu 1245 (TN)
6261    M01    463-801/30=38026 CW 10-4-2004 Sat 1500 (HFD)
6270.0  E10    ULX2 USB 1-4-2004 Thu 0500 (BS4)
6270.0  E10    ULX2//7760 USB 5-4-2004 Mon 0100 (BS4)
6270.0  E10    ULX2//7760 USB 7-4-2004 Wed 0100 (BS4)
6270.0  E10    ULX2//7760 USB 8-4-2004 Thu 0100 (BS4)
6270.0  E10    ULX2//7760 USB 9-4-2004 Fri 0100 (BS4)
6270.0  E10    ULX2//7760 USB 24-4-2004 Sat 0100 (BS4)
6270.0  E10    ULX2//7760 USB 28-4-2004 Wed 0100 (BS4)
6370    E10    KPA 24 CW 18-4-2004  2020 (AB)
6370    E10    KPA 4Z5  //6912 kHz AM 19-4-2004  1920 (AB)
6370    E10    KPA 34Z31Z8Z1400. Ended at 2024 UTC AM 21-4-2004  1933
                (AB)
6370    E10    KPA Z9Z7 AM 25-4-2004  1958 (AB)
6370.0  E10    KPA2//4780 USB 28-4-2004 Wed 0115 (BS4)
6373    M13    id 757 CW 23-4-2004  2150 (AB)
6379    M22    4XZ. Israeli Navy, Haifa CW 7-4-2004  2017 (MSM)
6379    M22    4XZ. Israeli Navy, Haifa CW 29-4-2004  2245 (TY)
6417    XSL    the Slot Machine  18-4-2004  2111 (AB)
6445    XSL    the Slot Machine  18-4-2004  2111 (AB)
6448    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               4-4-2004  1200 (TY)
6448    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               11-4-2004  1210 (TY)
6498.0  E10    PCD//8805 USB 1-4-2004 Thu 0430 (BS4)
6498.0  E10    PCD2 USB 7-4-2004 Wed 0330 (BS4)
6498.0  E10    PCD 29 ?JLVI USB 15-4-2004 Thu 2230 (BS4)
6498.0  E10    PCD USB 23-4-2004 Fri 0030 (BS4)
6498.0  E10    PCD USB 26-4-2004 Mon 0030 (BS4)
6714.0  XSL    barely heard through signal on adjacent freq USB
               29-4-2004 Thu 1240 (TN)
6758    M10    432/38  //4030 kHz CW 14-4-2004  1910 (FN)
6815    S06    624:0 AM 13-4-2004 Tue 1810 (HFD)
6840.0  E10    EZI 84 UHORN//9130 USB 1-4-2004 Thu 0430 (BS4)
6840.0  E10    "EZI" USB 2-4-2004 Fri 2130
6840.0  E10    EZI2//9130 USB 5-4-2004 Mon 0100 (BS4)
6840.0  E10    EZI2//9130 USB 7-4-2004 Wed 0100 (BS4)
6840.0  E10    EZI2//9130 USB 7-4-2004 Wed 0330 (BS4)
6840.0  E10    EZI2//9130 USB 8-4-2004 Thu 0100 (BS4)
6840.0  E10    EZI2//9130 USB 9-4-2004 Fri 0100 (BS4)
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6840.0 E10 EZI in tfc USB 9-4-2004 Fri 0130 (BS4)
6840.0 E10 EZI 11 PPMFN//9130 USB 10-4-2004 Sat 0130 (BS4)
6840.0 E10 EZI2//9130 USB 12-4-2004 Mon 2030 (BS4)
6840.0 E10 EZI 78 RJ?LZ//9130, 11565 USB 15-4-2004 Thu 0230 (BS4)
6840.0 E10 EZI2//9130 USB 24-4-2004 Sat 0100 (BS4)
6840.0 E10 EZI ?? ?????, 44 QBJIU, no repeat//9130 USB 24-4-2004
 Sat 0130 (BS4)
6840.0 E10 EZI ?? ?????, 44 QBJIU, 19 AOJBY USB 25-4-2004 Sun
 0130 (BS4)
6840.0 E10 EZI2//9130 USB 28-4-2004 Wed 0100 (BS4)
6840.0 E10 EZI 9 QJLUL//9130 USB 28-4-2004 Wed 0130 (BS4)
6855.0 V02a strong/readable, ID is 30022 74437 74051, very clear
 unt AM 5-4-2004 Mon 0300 (CrA-1)
6912 E10 KPA 4Z5 //6370 kHz AM 19-4-2004 1920 (AB)
6912 E10 KPA 34Z31Z8Z1400. Interrupted by CIO2 at 1946-1954 UTC
 AM 21-4-2004 1933 (AB)
6912 E10 CIO 11Z19Z64 AM 25-4-2004 2115 (AB)
6912 E10 CIO11Z19Z64 AM 25-4-2004 Sun 2125 (HFD)
6912 E10 SYN A50B2 //5170 kHz AM 29-4-2004 1930 (AB)
6912.0 E10 CIO2 AM 10-4-2004 Sat 1745 (JS3)
6912.0 E10 CIO2 USB 12-4-2004 Mon 1845 (JS3)
6912.0 E10 CIO2 USB 14-4-2004 Wed 1945 (JS3)
6912.0 E10 CIO2 USB 28-4-2004 Wed 0045 (BS4)
6930 E10 SYN 10Z99 AM 25-4-2004 2112 (AB)
6930 E10 SYN10Z99 AM 25-4-2004 Sun 2132 (HFD)
6930 E10 SYN A50B2 //5170 kHz. Moved from 6912 when CIO came
 on the air at 1945 UTC. Ended at 1951 on both freqs.
 AM 29-4-2004 1945 (AB)
6930.0 E10 SYN2 AM 10-4-2004 Sat 1745 (JS3)
6930.0 E10 SYN2 USB 12-4-2004 Mon 1845 (JS3)
6930.0 E10 SYN2 USB 14-4-2004 Wed 1945 (JS3)
6930.0 E10 SYN2 USB 28-4-2004 Wed 0045 (BS4)
6934 E07 913:0 AM 23-4-2004 Fri 0510 (HFD)
6934.0 E07 strong/readable, sked 913, no 000 000 sign-off AM
 23-4-2004 Fri 0510 (CrA-2)
6934.0 E10 just caught end of transmission-first time catch for
 me AM 30-4-2004 Fri 0238 (JEN)
6945.0 S10D "555" ID. S+20 DB in NE PA, USA... nice sig!!! I
 wonder if fi AM 22-4-2004 Thu 0152 (Red)
6959 E03 LP. Id 99128 USB 25-4-2004 1900 (AB)
6959 E03 LP. Id 82934 //11545 kHz USB 29-4-2004 2000 (AB)
6986.0 E10 ART 23 MUWIE USB 1-4-2004 Thu 0430 (BS4)
6986.0 E10 ART2 USB 24-4-2004 Sat 0430 (BS4)
7038.7 MX Cluster beacon "D" CW 5-4-2004 (x-10)
7038.8 MX Cluster beacon "P" CW 6-4-2004 1915 (BWD)
7038.9 MX Cluster beacon "S" CW 6-4-2004 1915 (BWD)
7038.9 MX Cluster beacon "S" CW 19-4-2004 2125 (AB)
7039 MX Cluster beacon "C" CW 6-4-2004 1915 (BWD)

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7519.0  M08a   strong/readable, ID is 64736 15177 30127 CW 5-4-2004
               Mon 2200 (CrA-1)
7519.0  M08a   fair/readable, i/p CW 7-4-2004 Wed 2200 (CrA-1)
7519.0  M08a   fair/readable, i/p CW 7-4-2004 Wed 2200 (CrA-1)
7526.0  M08a   fair/readable, ID is 64737 80071 03821 CW 6-4-2004 Tue
                2200 (CrA-1)
7526.0  M08a   ID 47363 49804 93594 (Only M8a today that I heard
               without the CW 20-4-2004 Tue 2200 (MS)
7540.0  E10    JSR USB 12-4-2004 Mon 2030 (BS4)
7630    E06    193-512/41=62449 AM 22-4-2004 Thu 2100 (HFD)
7680    G06    308-754/121=69141 AM 5-4-2004 Mon 2000 (HFD)
7680    S06    412:0 AM 26-4-2004 Mon 2115 (HFD)
7760    E06    690:0 AM 4-4-2004 Sun 1930 (HFD)
7760.0  E10    ULX2 USB 1-4-2004 Thu 0430 (BS4)
7760.0  E10    ULX2//6270 USB 5-4-2004 Mon 0100 (BS4)
7760.0  E10    ULX2//6270 USB 7-4-2004 Wed 0100 (BS4)
7760.0  E10    ULX2//6270 USB 8-4-2004 Thu 0100 (BS4)
7760.0  E10    ULX2//6270 USB 9-4-2004 Fri 0100 (BS4)
7760.0  E10    ULX2//6270 USB 24-4-2004 Sat 0100 (BS4)
7760.0  E10    ULX2//6270 USB 28-4-2004 Wed 0100 (BS4)
7918.0  E10    YHF in tfc//9202, 10648 USB 1-4-2004 Thu 0430 (BS4)
7918.0  E10    YHF 21 PVOUX USB 9-4-2004 Fri 0130 (BS4)
7918.0  E10    YHF 35 PMZOT/5820 AM 9-4-2004 Fri 1800 (JS3)
7918.0  E10    YHF 21 PVOUX USB 10-4-2004 Sat 0130 (BS4)
7918.0  E10    YHF 52 SZAGD, no repeat USB 24-4-2004 Sat 0130 (BS4)
7918.0  E10    YHF 52 SZAGD USB 28-4-2004 Wed 0130 (BS4)
7975.0  M08a   (in progress) CW 4-4-2004 Sun 0800 (MS)
8009.0  M08a   fair/readable, into message CW 1-4-2004 Thu 2200
8009.0  M08a   strong/readable, ID is 64736 15177 30127, rpt of 2200
               on CW 5-4-2004 Mon 2300 (CrA-1)
8009.0  M08a   fair/readable, into message CW 15-4-2004 Thu 2200
8010.0  M08a   ID 59801 99461 20361 (AR=OE, BT=K) CW 21-4-2004 Wed
               0800 (MS)
8010.0  V02a   strong/readable, into message USB 2-4-2004 Fri 0600
8097.0  V02a   strong/readable, into message USB 3-4-2004 Sat 0600
8103    E07    913:0 AM 16-4-2004 Fri 0530 (HFD)
8103    M22    4XZ. Israeli Navy, Haifa CW 29-4-2004  2245 (TY)
8103.0  E07    strong/readable, sked 913, no 000 000 sign-off AM
               23-4-2004 Fri 0530 (CrA-2)
8132.0  V02a   weird preamble  seems stagered AM 11-4-2004 Sun 0007
               (Vambo)
8135.0  M08a   fair/readable, doing its best not to drift, into
               message CW 1-4-2004 Thu 2300 (CrA-1)
8135.0  M08a   fair/readable, ID is 64737 80071 03821, rpt of 2200 on
                7 CW 6-4-2004 Tue 2300 (CrA-1)
8136.0  M08a   ID ----- 79503 64997 CW 4-4-2004 Sun 1000 (MS)
8136.0  M08a   ID 51521 18323 03101 (AR=OE, BT=K) CW 17-4-2004 Sat
               1100 (MS)
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8136.0  M08a   ID 14223 03753 03102 (AR=OE, BT=K) CW 18-4-2004 Sun
               1000 (MS)
8142    E07    674:1-1162/80= 00196 AM 22-4-2004 Thu 2050 (HFD)
8175    M10    665/35 CW 12-4-2004  1420 (FN)
8175.0  S10d   fair/readable, i/p USB 3-4-2004 Sat 1520 (CrA-2)
8183    MX     Channel marker "L", harmonic freq CW 7-4-2004  0812
8184.0  M12    884 884 884 1 (R2) 9654 191 9654 191 CW 25-4-2004 Sun
               0300 (MS)
8190    S17C   81034, //5301 AM 2-4-2004 Fri 1250 (HFD)
8190    S17C   56031, //5301 AM 4-4-2004 Sun 1250 (HFD)
8190    S17C   70033, //5301 AM 7-4-2004 Wed 1250 (HFD)
8190    S17C   71032, //5301 AM 8-4-2004 Thu 1250 (HFD)
8190    S17C   76035, //5301 AM 9-4-2004 Fri 1250 (HFD)
8190    S17C   70034, //5301 AM 10-4-2004 Sat 1250 (HFD)
8190    S17C   73033, //5301 AM 11-4-2004 Sun 1250 (HFD)
8190    S17C   82034, //5301 AM 15-4-2004 Thu 1250 (HFD)
8190    S17C   77034, //5301 AM 17-4-2004 Sat 1250 (HFD)
8190    S17C   78032, //5301 AM 24-4-2004 Sat 1250 (HFD)
8190    S17C   89034, //5301 AM 25-4-2004 Sun 1250 (HFD)
8190    S17C   81033, //5301 AM 26-4-2004 Mon 1250 (HFD)
8190    S17C   76033, //5301 AM 28-4-2004 Wed 1250 (HFD)
8190    S17C   64048, //5301 AM 29-4-2004 Thu 1250 (HFD)
8308    M89    V BFR7 BFR7 BFR7 DE 4XML 4XML CW 2-5-2004  1055 (TY)
8313    XSL    the Slot Machine  18-4-2004  2111 (AB)
8313.5  XSL    USB 29-4-2004 Thu 1245 (TN)
8494.7  MX     Cluster beacon "D" CW 5-4-2004   (x-10)
8494.9  MX     Cluster beacon "S" CW 19-4-2004  2140 (AB)
8495.2  MX     Cluster beacon "F" CW 19-4-2004  2137 (AB)
8495.3  MX     Cluster beacon "K" CW 20-4-2004  1926 (AB)
8495.4  MX     Cluster beacon "M" CW 19-4-2004  1958 (AB)
8495.4  MX     Cluster beacon "K" CW 20-4-2004  1926 (AB)
8544.0  E11    fair/readable, ID is 312, no message USB 6-4-2004 Tue
               1230 (CrA-3)
8588    XSL    the Slot Machine  18-4-2004  2111 (AB)
8588.0  XSL    USB 29-4-2004 Thu 1247 (TN)
8621    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               4-4-2004  1200 (TY)
8621    V26    Chinese/English numbers on 5924//6448//8621 kHz LSB
               11-4-2004  1210 (TY)
8703.5  XSL    the Slot Machine  18-4-2004  2111 (AB)
8703.5  XSL    USB 29-4-2004 Thu 1240 (TN)
8800.0  E11    weak/readable, ID is 183, no message USB 6-4-2004 Tue
               1300 (CrA-3)
8805.0  E10    PCD//6498 USB 1-4-2004 Thu 0430 (BS4)
8846.0  M13    Ended with the 3 long dashes   sounded like more than
               9WPM th CW 11-4-2004 Sun 0003 (Vambo)
8870    V25    Chinese YL AM 9-4-2004  1400 (TY)
9060.0  M08a   fair/readable, i/p CW 1-4-2004 Thu 0400 (CrA-1)
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9061.0 M08a very weak here CW 1-4-2004 Thu 0500 (JK)
9062.0 M08a ID 93223 56712 64996 (rpt of 0400z on 10235m) CW
 4-4-2004 Sun 0500 (MS)
9063.0 V02a fair/readable, into message USB 2-4-2004 Fri 0700
9063.0 V02a (in progress) AM 21-4-2004 Wed 0700 (MS)
9063.0 V02a (in progress) AM 23-4-2004 Fri 0700 (MS)
9065.0 E06 weak/readable, sked 690, no message AM 11-4-2004 Sun
 1830 (CrA-2)
9065.0 E06 strong/readable, sked 690/000000 AM 18-4-2004 Sun 1830
 (CrA-2)
9065.0 E06 fair/readable, sked 690, no message AM 25-4-2004 Sun
 1830 (CrA-2)
9070 E06 690:0 AM 4-4-2004 Sun 1830 (HFD)
9111.0 M08 CW 1-4-2004 Thu 0700 (SCV)
9130.0 E10 EZI 84 UHORN//6840 USB 1-4-2004 Thu 0430 (BS4)
9130.0 E10 fair/readable, ID is EZI2, null message USB 3-4-2004
 Sat 0330 (CrA-1)
9130.0 E10 EZI2//6840 USB 5-4-2004 Mon 0100 (BS4)
9130.0 E10 EZI in tfc USB 6-4-2004 Tue 0300 (BS4)
9130.0 E10 EZI2//6840 USB 7-4-2004 Wed 0100 (BS4)
9130.0 E10 EZI2//6840 USB 7-4-2004 Wed 0330 (BS4)
9130.0 E10 EZI2//6840 USB 8-4-2004 Thu 0100 (BS4)
9130.0 E10 EZI 137 YQDYG USB 8-4-2004 Thu 0300 (BS4)
9130.0 E10 EZI2//6840 USB 9-4-2004 Fri 0100 (BS4)
9130.0 E10 EZI 11 PPMFN//6840 USB 10-4-2004 Sat 0130 (BS4)
9130.0 E10 EZI2//6840 USB 12-4-2004 Mon 2030 (BS4)
9130.0 E10 EZI 78 RJ?LZ//6840, 11565 USB 15-4-2004 Thu 0230 (BS4)
9130.0 E10 EZI 104 MVGLC/ initially calling PCD, stopped/ then
 calling E USB 15-4-2004 Thu 2230 (BS4)
9130.0 E10 EZI 91 GQUXI, ?? ?????//11565 USB 17-4-2004 Sat 0230
 (BS4)
9130.0 E10 "group 162 test" at end, back on at 0331 with "echo
 zulu ind USB 17-4-2004 Sat 0313 (TN)
9130.0 E10 EZI 90 DVLKH USB 17-4-2004 Sat 2330 (BS4)
9130.0 E10 EZI2//6840 USB 24-4-2004 Sat 0100 (BS4)
9130.0 E10 EZI ?? ?????, 44 QBJIU, no repeat//6840 USB 24-4-2004
 Sat 0130 (BS4)
9130.0 E10 EZI 90 DVLKH USB 25-4-2004 Sun 2330 (BS4)
9130.0 E10 EZI 162 VMSSM USB 26-4-2004 Mon 0300 (BS4)
9130.0 E10 EZI2//6840 USB 28-4-2004 Wed 0100 (BS4)
9130.0 E10 EZI 9 QJLUL//6840 USB 28-4-2004 Wed 0130 (BS4)
9152.0 M08a ID 51521 18323 03101 (AR=OE, BT=K) (rpt of 1100z onn
 8136m) CW 17-4-2004 Sat 1200 (MS)
9153.0 V02a strong/readable, ID is 47946 01622 73142 USB 2-4-2004
 Fri 1300 (CrA-1)
9153.0 V02a strong/readable, into message, M8a in bg USB 23-4-2004
 Fri 1300 (CrA-1)
9184.0 M12 884 884 884 1 (R2) 9654 191 9654 191 (rpt of 0300z on

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                8184m) CW 25-4-2004 Sun 0320 (MS)
9184.0  M13     Ended with the 3 long dashes   sounded like more than
                9WPM th CW 11-4-2004 Sun 0003 (Vambo)
9202.0  E10     YHF in tfc//7918, 10648 USB 1-4-2004 Thu 0430 (BS4)
9202.0  E10     YHF 77 ZAGWX USB 12-4-2004 Mon 2030 (BS4)
9220.0  G06     fair/readable, into message AM 5-4-2004 Mon 1900
9230    S06     412:0 AM 26-4-2004 Mon 2015 (HFD)
9238.0  M08a    ID ----- 79503 64997 (rpt of 1000z on 8136m, missed
                first add CW 4-4-2004 Sun 1100 (MS)
9238.0  M08a    ID 14223 03753 03102 (rpt of 1000z on 8136m) (AR=OE,
                BT=K) CW 18-4-2004 Sun 1100 (MS)
9238.0  M08a    (in progress - missed callup) (AR=OE, BT=K) CW
                21-4-2004 Wed 0700 (MS)
9238.0  M08a    ID ----- 70511 73801 (AR=OE, BT=K) CW 21-4-2004 Wed
                0900 (MS)
9238.0  M08a    (in progress) CW 23-4-2004 Fri 0700 (MS)
9238.0  M08a    ID 33702 78933 73672 (AR=OE, BT=K) CW 25-4-2004 Sun
                1100 (MS)
9240    V25     Chinese YL AM 15-4-2004  1300 (TY)
9277    E07     674:0 AM 15-4-2004 Thu 2030 (HFD)
9277    E07     674:1-1162/80= 00196 AM 22-4-2004 Thu 2030 (HFD)
9323.0  M08a    ID 03421 44732 45142 CW 4-4-2004 Sun 0900 (MS)
9323.0  M08a    ID 36412 42312 93401 CW 17-4-2004 Sat 1000 (MS)
9323.0  M08a    ID 80673 32151 00191 (AR=OE, BT=K) CW 18-4-2004 Sun
                0900 (MS)
9323.0  M08a    ID 36413 42313 93402 (AR=OE, BT=K) CW 20-4-2004 Tue
                1000 (MS)
9323.0  M08a    ID 21873 62221 29911 (AR=OE, BT=K) CW 25-4-2004 Sun
                0900 (MS)
9323.0  V02a    fair/readable, ID repeated twice then into message USB
                 1-4-2004 Thu 0400 (CrA-1)
9323.0  V02a    fair/readable, into message USB 2-4-2004 Fri 0600
9330.0  M08a    strong/readable, ID is 84711 82132 64092 CW 5-4-2004
                Mon 1200 (CrA-1)
9330.0  M08a    strong/readable, into message CW 7-4-2004 Wed 1200
9330.0  M08a    strong/readable, ID is 54361 42032 66212 CW 12-4-2004
                Mon 1200 (CrA-1)
9330.0  M08a    strong/readable, false start at 1154z, ID is 58252
                56333 CW 16-4-2004 Fri 1200 (CrA-1)
9330.0  M08a    strong/readable, into message CW 19-4-2004 Mon 1200
                (CrA-1)
9330.0  M08a    strong/readable, into message CW 21-4-2004 Wed 1200
                (CrA-1)
9330.0  M08a    strong/readable, into message CW 23-4-2004 Fri 1200
9331.0  M08a    strong/readable, old sked, into message CW 2-4-2004
                Fri 1200 (CrA-1)
9331.0  M08a    strong/readable, ID is 27873 56331 91611 CW 14-4-2004
                Wed 1200 (CrA-1)
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 9331.0  M08a   ID 93581 93913 51522 (AR=OE, BT=K) CW 21-4-2004 Wed
                1000 (MS)
 9331.0  M08a   ID 54363 55441 14181 CW 21-4-2004 Wed 1200 (MS)
 9452.0  XP     strong/readable, ID is 481, dk/gc 07726/00149, 2nd
                dk/gc AM 6-4-2004 Tue 0600 (CrA-2)
 9452.0  XP     weak/readable, ID is 481, dk/gc 07726/149, dk/gc
                00436/12 AM 6-4-2004 Tue 0600 (CrA-1)
 9452.0  XP     weak/readable, ID is 481, dk/gc 07891/00219 AM
                20-4-2004 Tue 0600 (CrA-1)
 9452.0  XP     strong/readable, ID is 481, dk/gc 07891/00219 AM
                20-4-2004 Tue 0600 (CrA-2)
 9452.0  XP     weak/readable, ID is 491, dk/gc 06185/00101 AM
                23-4-2004 Fri 0600 (CrA-1)
 9452.0  XP     strong/readable, ID is 491, dk/gc 06185/00101 AM
                23-4-2004 Fri 0600 (CrA-2)
 9453    XP     msg AM 13-4-2004 Tue 0600 (HFD)
 9453    XP     msg AM 16-4-2004 Fri 0600 (HFD)
10046.0  M22    CW 17-4-2004 Sat 0336 (TN)
10126.0  M08a   fair/readable, into message CW 14-4-2004 Wed 1100
10126.0  M08a   ID 80672 84902 92333 CW 17-4-2004 Sat 0900 (MS)
10126.0  M08a   ID 98532 32153 00193 (rpt of 0800z on 11432m) (AR=OE,
                BT=K) CW 20-4-2004 Tue 0900 (MS)
10126.0  M08a   ID 09153 73232 77491 (AR=OE, BT=K) CW 21-4-2004 Wed
                1100 (MS)
10184.0  M12    884 884 884 1 (R2) 9654 191 9654 191 (rpt of 0320z on
                9184m) CW 25-4-2004 Sun 0340 (MS)
10235.0  M08a   ID 93223 56712 64996 CW 4-4-2004 Sun 0400 (MS)
10235.0  M08a   (in progress - went silent after a minute) CW 4-4-2004
                 Sun 0800 (MS)
10235.0  M08a   ID 49853 38332 73671 (AR=OE, BT=K) CW 25-4-2004 Sun
                0400 (MS)
10344.0  M08a   ID 36412 42312 93401 (rpt of 1000z on 9323m) CW
                17-4-2004 Sat 1100 (MS)
10426    E03    LP, id 22950 USB 18-4-2004  2006 (AB)
10426    E03    LP. Id 45893 USB 21-4-2004  2000 (AB)
10446.0  M08a   fair/readable, into message CW 1-4-2004 Thu 0300
10446.0  M08a   ID 36413 42313 93402 (rpt of 1000z on 9323m) (AR=OE,
                BT=K) CW 20-4-2004 Tue 1100 (MS)
10446.0  V02a   strong/readable, ID is 41043 56932 57352, bad hum on
                car USB 5-4-2004 Mon 0300 (CrA-1)
10446.0  V02a   fair/readable, into message USB 7-4-2004 Wed 0300
10518    M87    651 651 651 651 651 651 651 651 651 651 000 CW
                31-3-2004  2300 (IB)
10566.0  M08a   strong/readable, ID is 39076 10184 15174 CW 2-4-2004
                Fri 1300 (CrA-1)
10566.0  M08a   strong/readable, ID is 84711 82132 64092, rpt of 1200
                on CW 5-4-2004 Mon 1300 (CrA-1)
10566.0  M08a   strong/readable, into message CW 7-4-2004 Wed 1300
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10566.0  M08a   strong/readable, into message CW 23-4-2004 Fri 1300
10623.0  M13    517 (R5) (Too weak to copy) CW 20-4-2004 Tue 2000 (MS)
10648.0  E10    YHF in tfc//7918, 9202 USB 1-4-2004 Thu 0430 (BS4)
10648.0  E10    YHF 119 ?TNSQ USB 1-4-2004 Thu 0500 (BS4)
10822    M89    V BFR7 BFR7 BFR7 DE 4XML 4XML CW 2-5-2004  1055 (TY)
10852    XP     msg AM 16-4-2004 Fri 0620 (HFD)
10852.0  XP     strong/readable, ID is 481, dk/gc 07726/00149, 2nd
                dk/gc AM 6-4-2004 Tue 0620 (CrA-2)
10852.0  XP     strong/readable, ID is 481, dk/gc 07891/00219 AM
                20-4-2004 Tue 0620 (CrA-2)
10852.0  XP     fair/readable, ID is 481. dk/gc 07891/00219 AM
                20-4-2004 Tue 0620 (CrA-1)
10852.0  XP     strong/readable, ID is 491, dk/gc 06185/00101 AM
                23-4-2004 Fri 0620 (CrA-2)
10852.0  XP     weak/readable, ID is 481, dk/gc 06185/00101, weaker
                than AM 23-4-2004 Fri 0620 (CrA-1)
10858.0  M08a   ID 39077 82131 64091 CW 3-4-2004 Sat 1200 (MS)
10858.0  M08a   strong/readable, ID is 24712 ?2133 84093 CW 6-4-2004
                Tue 1200 (CrA-1)
10858.0  M08a   strong/readable, into message before 1200z CW
                13-4-2004 Tue 1200 (CrA-1)
10858.0  M08a   ID 58253 76291 73821 (AR=OE, BT=K) CW 17-4-2004 Sat
                1200 (MS)
10858.0  M08a   strong/readable, into message CW 20-4-2004 Tue 1200
                (CrA-1)
10858.0  M08a   (IN PROGRESS - EARLY START) CW 20-4-2004 Tue 1200 (MS)
10858.0  M08a   strong/readable, ID is 73274 09592 14182 CW 22-4-2004
                Thu 1200 (CrA-1)
10871.7  MX     Cluster beacon "D" CW 5-4-2004   (x-10)
10871.9  MX     Cluster beacon "S" CW 18-4-2004  1458 (AB)
10872.2  MX     Cluster beacon "F" CW 19-4-2004  2125 (AB)
10872.3  MX     Cluster beacon "K" CW 19-4-2004  2125 (AB)
10872.4  MX     Cluster beacon "M" CW 19-4-2004  1958 (AB)
10969    XP     0-msg, //12180 AM 15-4-2004 Thu 2020 (HFD)
11064    E07    674:1-1162/80= 00196 AM 22-4-2004 Thu 2010 (HFD)
11150    S06    825:0 AM 10-4-2004 Sat 1800 (HFD)
11208    M12    in progress. Ends 000 000 CW 5-4-2004  0607 (FN)
11432.0  M08a   ID 98532 32153 00193 (AR=OE, BT=K) CW 20-4-2004 Tue
                0800 (MS)
11545    E03    LP. Id 99128 USB 25-4-2004  1900 (AB)
11545    E03    LP. Id 82934 //6959 kHz USB 29-4-2004  2000 (AB)
11545    E03    LP. Id 85087 USB 1-5-2004  2000 (AB)
11545.0  E03    missed callup USB 3-4-2004 Sat 1400 (JK)
11545.0  E03    weak/readable, ID is 14921 USB 3-4-2004 Sat 1400
11545.0  E03    //12603 and 13375.  Callup 81713 USB 3-4-2004 Sat 1500
11545.0  E03    weak/readable, ID is 36330 USB 5-4-2004 Mon 2200
11565.0  E10    weak/readable, ID is EZI2, null message USB 1-4-2004
                Thu 0400 (CrA-1)
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11565.0  E10    EZI2 USB 1-4-2004 Thu 0500 (BS4)
11565.0  E10    fair/readable, msg: 24 grps, 1st grp: EUGQ? USB
                3-4-2004 Sat 0300 (CrA-1)
11565.0  E10    EZI in tfc//13533 USB 3-4-2004 Sat 1730 (BS4)
11565.0  E10    EZI in tfc USB 13-4-2004 Tue 0230 (BS4)
11565.0  E10    EZI 78 RJ?LZ//6840, 9130 USB 15-4-2004 Thu 0230 (BS4)
11565.0  E10    EZI 91 GQUXI, ?? ?????//9130 USB 17-4-2004 Sat 0230
                (BS4)
11566.0  V02a   weak/partially readable, i/p USB 2-4-2004 Fri 0300
11566.0  V02a   very weak/partially readable, into message USB
                9-4-2004 Fri 0300 (CrA-1)
12093.0  M08a   strong/readable, new frequency CW 1-4-2004 Thu 1300
                (CrA-1)
12093.0  M08a   ID 39077 82131 64091 (rpt of 1200z on 10858m) CW
                3-4-2004 Sat 1300 (MS)
12093.0  M08a   strong/readable, into message CW 6-4-2004 Tue 1300
12119.0  M08a   weak/partially readable, into message CW 6-4-2004 Tue
                0100 (CrA-1)
12152    XP     msg AM 16-4-2004 Fri 0640 (HFD)
12152.0  XP     strong/readable, ID is 481, dk/gc 07726/00149, 2nd
                dk/gc AM 6-4-2004 Tue 0640 (CrA-2)
12152.0  XP     fair/readable, ID is 481, dk/gc 07891/00219 AM
                20-4-2004 Tue 0640 (CrA-1)
12152.0  XP     strong/readable, ID is 481, dk/gc 07891/00219 AM
                20-4-2004 Tue 0640 (CrA-2)
12152.0  XP     strong/readable, ID is 491, dk/gc 06185/00101 AM
                23-4-2004 Fri 0640 (CrA-2)
12152.0  XP     weak/readable, ID is 481, dk/gc 06185/00101, weaker
                than AM 23-4-2004 Fri 0640 (CrA-1)
12165.0  V02a   strong/readable, ID is 41043 56932 57352, very clear
                unt AM 5-4-2004 Mon 0200 (CrA-1)
12165.0  V02a   weak/readable, into message USB 12-4-2004 Mon 0200
                (CrA-1)
12180    XP     0-msg AM 13-4-2004 Tue 2000 (HFD)
12180    XP     0-msg, //10969 AM 15-4-2004 Thu 2020 (HFD)
12180.0  V02a   very weak/mostly unheard, i/p USB 7-4-2004 Wed 0200
12180.0  V02a   very weak/mostly unreadable, i/p USB 14-4-2004 Wed
                0200 (CrA-1)
12190    S06    724:0 AM 10-4-2004 Sat 1700 (HFD)
12194    E07    851:1-876/143= 01774 strong AM 11-4-2004 Sun 1740
12194.0  E07    weak/readable, ID is 851, message AM 7-4-2004 Wed 1740
                 (CrA-2)
12194.0  E07    fair/readable, sked 851, dk/gc 876/143 AM 11-4-2004
                Sun 1740 (CrA-2)
12194.0  E07    fair/readable, sked 851, dk/gc  876/143 AM 18-4-2004
                Sun 1740 (CrA-2)
12210    E06    680-601/89=17282 AM 16-4-2004 Fri 0500 (HFD)
12215.0  V02a   weak/readable, into message USB 6-4-2004 Tue 0200
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12215.0  V02a   weak/readable, into message USB 9-4-2004 Fri 0200
12215.0  V02a   weak/readable, into message USB 20-4-2004 Tue 0200
12217    E07    920:0 AM 14-4-2004 Wed 2020 (HFD)
12217    E07    920:0 AM 26-4-2004 Mon 2020 (HFD)
12217.0  E07    weak/mostly readable, ID is 920, no msg AM 7-4-2004
                Wed 2020 (CrA-2)
12445.0  M13    261 (R5) (too weak for further copy) CW 18-4-2004 Sun
                2000 (MS)
12603.0  E03    weak/mostly unheard, i/p USB 1-4-2004 Thu 2200 (CrA-1)
12603.0  E03    weak/mostly unheard, i/p USB 6-4-2004 Tue 2200 (CrA-1)
12603.0  E03    USB 7-4-2004 Wed 2200 (CrA-1)
12603.0  E03    fair/readable, ID is 85505 USB 7-4-2004 Wed 2200
12603.0  E03    weak/readable, ID is 97152 USB 15-4-2004 Thu 2200
12984    M22    4XZ. Israeli Navy, Haifa CW 29-4-2004  2245 (TY)
13000    M87    792 792 792 792 792 792 792 792 792 792 792 792 792
                792 792 000 CW 1-4-2004  0700 (IB)
13375.0  E03    fair/readable, ID is 81713 USB 3-4-2004 Sat 1500
13436.0  V02a   weak/readable, into message USB 6-4-2004 Tue 0100
13436.0  V02a   fair/readable, ID is 26152 50923 70593 USB 20-4-2004
                Tue 0100 (CrA-1)
13440    S06    825:0 AM 10-4-2004 Sat 1700 (HFD)
13527.7  MX     Cluster beacon "D" CW 5-4-2004   (x-10)
13527.9  MX     Cluster beacon "S" CW 18-4-2004  1457 (AB)
13528.2  MX     Cluster beacon "F" CW 18-4-2004  1457 (AB)
13528.2  MX     Cluster beacon "F" CW 19-4-2004  2125 (AB)
13528.3  MX     Cluster beacon "K" CW 19-4-2004  2127 (AB)
13528.4  MX     Cluster beacon "M" CW 19-4-2004  1958 (AB)
13528.4  MX     Cluster beacon "M" CW 20-4-2004  2219 (AB)
13533.0  E10    EZI very faint here USB 3-4-2004 Sat 1430 (JK)
13533.0  E10    EZI in tfc//11565 USB 3-4-2004 Sat 1730 (BS4)
13571    E07    851:1-876/143= 01774 weak AM 11-4-2004 Sun 1720 (HFD)
13571.0  E07    very weak/ mostly unheard, ID is 851, message AM
                7-4-2004 Wed 1720 (CrA-2)
13571.0  E07    fair/readable, sked 851, dk/gc 876/143 AM 11-4-2004
                Sun 1720 (CrA-2)
13571.0  E07    weak/readable, sked 851, dk/gc  876/143 AM 18-4-2004
                Sun 1720 (CrA-2)
13921    E07    920:0 AM 14-4-2004 Wed 2000 (HFD)
13922    E07    920:0 AM 26-4-2004 Mon 2000 (HFD)
13922.0  E07    very weak/mostly unreadable, ID is 920, no msg AM
                7-4-2004 Wed 2000 (CrA-2)
13950    S06    036-427/44=00365 AM 13-4-2004 Tue 1730 (HFD)
14376.0  M93    (in progress - ends message with "// AR", also sends
                long 0) CW 16-4-2004 Fri 2102 (MS)
14387    V07    304:0 AM 13-4-2004 Tue 0600 (HFD)
14487.0  E03    fair/readable, ID is 12115 USB 1-4-2004 Thu 1300
14487.0  E03    USB 1-4-2004 Thu 1300 (CrA-1)
14487.0  E03    weak/mostly unreadable, i/p USB 2-4-2004 Fri 1200
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14487.0  E03    weak/readable, ID is 50452 USB 2-4-2004 Fri 1300
14487.0  E03    weak/readable, ID is 81713 USB 5-4-2004 Mon 1200
14487.0  E03    weak/readable, ID is 50332 USB 5-4-2004 Mon 1300
14487.0  E03    weak/mostly readable, into message USB 5-4-2004 Mon
                1400 (CrA-1)
14487.0  E03    weak/readable, ID is 50332 USB 6-4-2004 Tue 1300
14487.0  E03    weak/partially readable, into message USB 7-4-2004 Wed
                 1200 (CrA-1)
14487.0  E03    very weak/mostly unheard, i/p USB 13-4-2004 Tue 1200
                (CrA-1)
14487.0  E03    weak/partially readable, i/p USB 14-4-2004 Wed 1200
14487.0  E03    weak/readable, ID is 98122 USB 16-4-2004 Fri 1200
14487.0  E03    weak/mostly unreadable, i/p USB 21-4-2004 Wed 1200
14487.0  E03    fair/readable, ID is 98122 USB 22-4-2004 Thu 1200
14866.0  E07    weak/readable, ID is 851, message AM 7-4-2004 Wed 1700
                 (CrA-2)
14866.0  E07    fair/readable, into message AM 11-4-2004 Sun 1700
14890    E06    680-601/89=17282 AM 16-4-2004 Fri 0600 (HFD)
14927    M14    ...5FG rptd == 705 705 126 126 00000 CW 11-4-2004
                0930 (FN)
15682.0  E03    weak/readable, ID is 50402 USB 2-4-2004 Fri 1300
15682.0  E03    fair/readable, ID is 98122 USB 22-4-2004 Thu 1200
16084    E03    LP. Id 36330 USB 2-4-2004  1705 (RGA)
16084.0  E03    weak/readable, ID is 50452 USB 2-4-2004 Fri 1300
16084.0  E03    fair/readable, ID is 98122 USB 22-4-2004 Thu 1200
16087    V07    304:0 AM 15-4-2004 Thu 0620 (HFD)
16331.4  MX     Cluster beacon "M" CW 19-4-2004  1958 (AB)
16331.7  MX     Cluster beacon "D" CW 5-4-2004   (x-10)
16331.9  MX     Cluster beacon "S" CW 18-4-2004  1500 (AB)
18233.0  E03    weak/readable, ID is 69617 USB 7-4-2004 Wed 1400
18864.0  E04    very weak/mostly unheard, i/p USB 7-4-2004 Wed 2200
19452.0  E03    weak/readable, ID is 69617 USB 7-4-2004 Wed 1400
19880    M42    Dept of State Comms Moscow MFSK-32 24-4-2004  1230
                (LDO)

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